



## Certificate of Mailing / Transmission (37 C.F.R. 1.8(a))

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Signature

Date

*Louis F. Wagner*

6/18/2003

Louis F. Wagner

18 June 2003

(type or print name of person certifying)

### IN THE UNITED STATES PATENT & TRADEMARK OFFICE

**Applicant:** Stevenson et al.

**Examiner:** Thexton, Matthew

**Serial #:** 10/086,619

**Art Unit:** 1714

**Filing Date:** 01 March 2002

**Date:** 18 June 2003

**Title:** PHOSPHITE ESTER ADDITIVE COMPOSITIONS

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### Reconsideration Requested

### Renewed Petition under 37 CFR 1.78(a)(6)

This Renewed Petition is pursuant to the Decision on Petition dated 06 June 2003, and is within the two month response period, therefore, no extension of time is believed to be necessary pursuant to 37 CFR §1.136(a).

In the original decision, Petitions Examiner Paul Shanoski noted that the originally filed petition failed to state that the entire delay between the date the claim was due and the date that the claim was filed was unintentional, and that such statement is required under 37 CFR §1.78(a)(5).

Additionally, Petitions Examiner Shanoski noted that no Application Data Sheet ("ADS") had been filed with this petition and that the first sentence of the specification failed to identify this information. The Petitions Examiner suggested that on renewed

petition, either an ADS or an amendment to the specification must be filed to correct this deficiency.

***Enclosures Contained with this Renewed Petition***

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1. Declaration of applicant's attorney; (Exhibit A)
2. Copy of Amendment A filed with Examiner Thexton in response to pending Office Action in above captioned patent application (Exhibit B);
3. Application Data Sheet (Exhibit C); and
4. Copy of originally filed Petition (Exhibit D) including corrected priority application numbers and dates thereof re-executed by the inventors.

***Statement of Facts Involved***

U.S. patent application Serial Number 10/086,619 claims priority from three provisional patent applications:

60/273,303 (filing date 3/2/2001);

60/314,181 (filing date 8/16/2001 incorrectly listed as 8/15/2001); and

60/315,746 (filing date 8/29/2001).

The Office correctly noted that the filing date of the middle provisional application was incorrect in the declaration which was signed by all inventors.

At the time of the filing of the instant application, the assignee of the patent application, Dover Chemical Corp., was in the process of transferring Intellectual Property work from one law firm to the law firm of the applicant. This law firm did not have all of the files associated with this matter in its presence as of the filing date of the instant application.

***Subsequent Actions taken since the Filing of the Original Petition***

Applicant's attorney has submitted Amendment A in response to a pending office action received on the instant matter, such Amendment included as Exhibit B attached hereto. The Amendment contained a copy of the originally filed Petition to this Office (Exhibit D).

Page 35 of the amendment response identifies the language to insert which correctly identifies the claim to priority on the first page of the application, and additionally included a replacement page as required.

The applicant further submits an Application Data Sheet to further comply with the requirement (Exhibit C).

***Points to be Reviewed***

Applicant petitions for entry of the following accompanying papers with respect to the priority claim in this case.

- (1) Application Data Sheet (ADS) (Exhibit C); and
- (2) Declaration of Louis F. Wagner, attorney for applicant (Exhibit E).

The date associated with the provisional patent application should correctly be listed as August 16, 2001, but was incorrectly listed as August 15, 2001 on the original declaration signed by the inventors. This was an inadvertent error, and was without deceptive intent, in that the return postcard was relied upon which showed an incorrect handwritten date. At the time of the filing of this patent application, a previous law firm was in the process of transferring the file and while the receipt date by the USPTO showed August 16, 2001, there was no way of verifying which date was correct.

It is respectfully submitted that this inadvertent error was with deceptive intent, and will not require the Office to perform any additional work in that the first filed provisional application was correctly identified as was a later filed provisional application. Additionally, the middle provisional application was correctly identified by serial number.

***Action Requested***

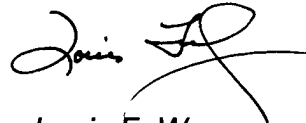
Applicant petitions for entry of the attached Application Data Sheet which identifies the filing dates of all provisional patent applications. Applicant respectfully petitions for the issuance of a corrected filing receipt.

***Deposit Account***

While no additional fee is believed to be required with this submission, if this determination is in error, the Commissioner is hereby authorized to charge any additional fee required to effect the filing of this document to Account No. 50-0983.

The entry of the correct provisional patent application filing date for serial no. 60/314,181 is earnestly solicited.

Respectfully Submitted,  
Buckingham, Doolittle & Burroughs, LLP

A handwritten signature in black ink, appearing to read "Louis F. Wagner", with a stylized flourish extending from the end.

Louis F. Wagner  
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Registration No.: 35,730

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P.O. Box 1500  
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(330) 258-6453 (telephone)  
(330) 252-5452 (fax)  
Attorney Docket #: 47399.0015



IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant:	Stevenson et al.	Examiner:	Thexton, Matthew
Serial #:	10/086,619	Art Unit:	1714
Filing Date:	01 March 2002	Date:	18 June 2003
Title:	PHOSPHITE ESTER ADDITIVE COMPOSITIONS		

Commissioner of Patent and Trademarks  
Washington, D.C. 20231

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Declaration of Louis F. Wagner

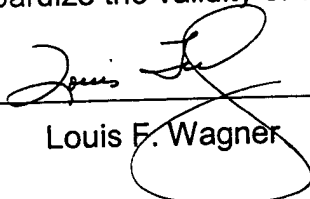
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I, *Louis F. Wagner*, patent attorney for the applicant of the above identified invention, hereby declare the following:

1. *That* I first became aware of the mistake in the priority date listed for provisional patent application 60/314,181 upon the receipt of the original filing receipt mailed by the USPTO to the declarant on 3/28/2002 (Exhibit F).
2. *That* I submitted a Request for a Corrected Filing Receipt on April 25, 2002 believing that to be the correct manner in which to correct what was believed to have been a clerical error at that time (Exhibit G).
3. *That* the declarant was apprised by the USPTO that the error was not capable of being corrected by that procedure in a communication entitled "Response to Request for Corrected Filing Receipt" mailed by the USPTO on May 28, 2002 (Exhibit H).
4. *That* the declarant was additionally apprised of that fact by the Examiner assigned to the instant patent application in a first office action mailed on December 2, 2002 (Exhibit I).
5. *That* a Petition to Correct was filed on April 29, 2003 (Exhibit D) which the Petitions Office has responded with their initial decision in Paper No. 8 (Exhibit J).

6. *That* the declarant filed a response to the pending Office Action on May 29, 2003 (Exhibit B) which addressed both the procedural and substantive rejections, including a copy of the Petition previously filed with this Office (Exhibit D).
7. *That* the declarant inadvertently omitted to state that the entire delay between the date of the claim was due under 37 CFR §1.79(a)(5)(ii) was unintentional, although it is respectfully submitted that through the representation contained by the declarant in the originally filed petition which explains the underpinnings for the incorrect date, it is inherent in the text of the document, even though the term "unintentional" was not expressly used.
8. *That* the delay in the submission of the correct date was unintentional for the entire time period defined under 37 CFR §1.79(a)(5)(ii) to the present.
9. *That* the identification of the correct serial numbers in all instances is further evidence that the declarant always intended to identify the priority provisional patent applications correctly.
10. *That* the mis-identification of the filing date of the middle priority provisional patent application had no bearing on the date that the Office would have relied upon in determining Prior Art since the initial priority provisional patent application was always correct identified, as was the latest priority provisional patent application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

  
\_\_\_\_\_  
Louis F. Wagner

6/18/2003  
Date



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### FACSIMILE

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Signature

Date

*Louis F. Wagner*

5/29/2003

Louis F. Wagner

29 May 2003

(type or print name of person certifying)

### IN THE UNITED STATES PATENT & TRADEMARK OFFICE

<b>Applicant:</b>	Stevenson et al.	<b>Examiner:</b>	Thexton, Matthew
<b>Serial #:</b>	10/086,619	<b>Art Unit:</b>	1714
<b>Filing Date:</b>	01 March 2002	<b>Date:</b>	29 May 2003
<b>Title:</b>	Phosphite Ester Additive Compositions		

Box Amendment  
Assistant Commissioner for Patents  
Washington, D.C. 20231

### Amendment A

This amendment is in response to the *non-final* Office Action dated 02 December 2002. This response is filed outside of the three month shortened statutory period but within the six month extended response period. Therefore a request for a three (3) month extension of time accompanies this request. Please amend the application as follows.

### In the Drawings

No changes are made to the Drawings.

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### *In the Claims*

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In light of the fact that brackets were used in many of the chemical formulas, the ability to show the examiner which parts of the claim were being amended was not possible. Therefore, please delete claims 1-41 and a new set of claims is being provided consecutively numbered 42-82. Support for these new claims can be found in the originally submitted claims.

42. A stabilized composition comprising:

- (a) a halogenated resin;
- (b) at least one phosphite ester selected from the group consisting of aryl phosphites, alkyl phosphites, aryl/alkyl phosphites, bisphenol-A phosphites, dialkylene glycol phosphites and polydialkylene glycol phosphites, pentaerythritol phosphites, *p*-cumyl phenol phosphites and blends thereof; and
- (c) approximately 50 to 800 ppm zinc per 100 parts resin.

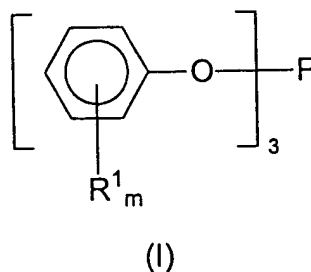
43. The composition of claim 42 wherein

- (a) said zinc is from approximately 100 to 500 ppm.

44. The composition of claim 43 wherein

- (a) said zinc is from approximately 100 to 250 ppm.

45. The composition of claim 42 wherein said at least one phosphite ester is selected from the group consisting of  
aryl phosphites of formula (I)



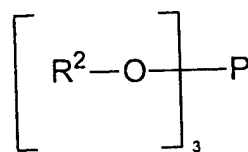
wherein:

$R^1$  is independently selected from the group



consisting of H, C<sub>1-18</sub> alkyl, C<sub>1-18</sub> alkoxy, halogens;  
and

M is an integral value from 0 to 5 inclusive,  
alkyl phosphites of formula (II)

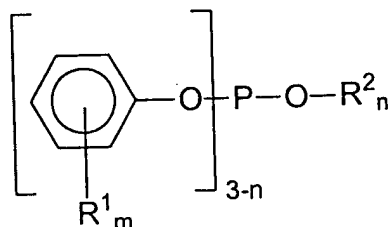


(II)

wherein:

R<sup>2</sup> is selected from the group consisting of C<sub>1-18</sub>  
alkyl,

alkyl/aryl phosphites of formula (III)



(III)

wherein:

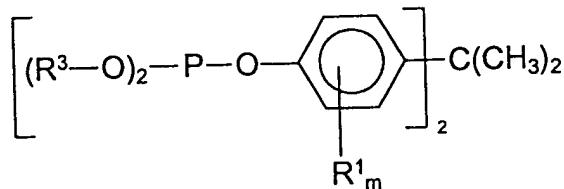
R<sup>1</sup> is as previously defined;

R<sup>2</sup> is as previously defined;

m is an integral value from 0 to 5 inclusive; and

n is an integral value from 1 to 2,

bisphenol-A phosphites of formula (IV)



(IV)

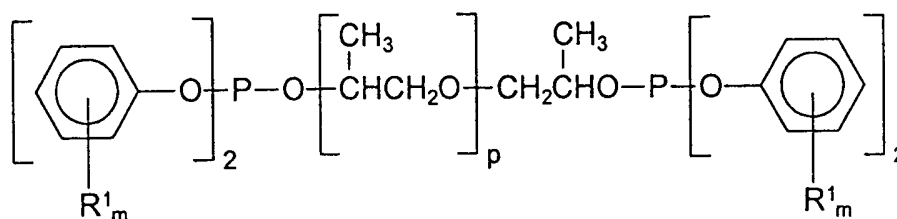
wherein

$R^1$  is as defined previously;

$R^3$  is  $C_{8-18}$  alkyl; and

$M$  is an integral value from 0 to 5 inclusive,

polydialkylene glycol phosphites of formula (V)



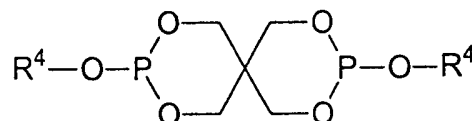
wherein:

$R^1$  is as defined previously;

$m$  is an integral value from 0 to 5 inclusive; and

$p$  is an integral value from 0 to 1 inclusive,

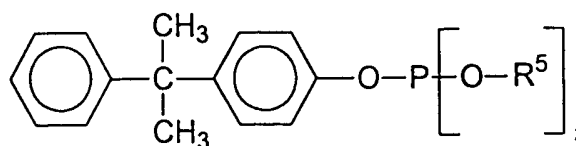
pentaerythritol phosphites of formula (VI)



wherein:

$R^4$  is selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy, and

*p*-cumyl phenol phosphites of formula (VII)



(VII)

wherein:

$R^5$  is independently selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy.

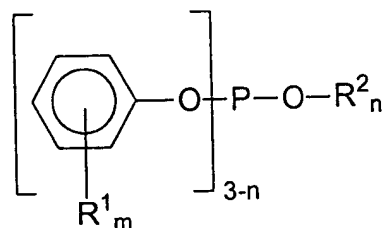
46. The composition of claim 45 wherein

(a) a percentage weight loss of said composition as measured as a difference between a start and an end weight of said composition as measured after exposure to two hours at  $110^{\circ}\text{C}$ , is less than 1% by weight.

47. The composition of claim 46 wherein

(a) a percentage weight loss is less than 0.5% by weight.

48. The composition of claim 47 wherein said at least one phosphite ester is selected from the group consisting of  
alkyl/aryl phosphites of formula (III)



(III)

wherein:

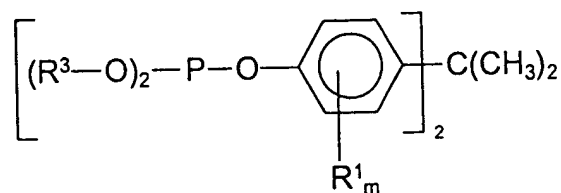
$R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and

$R^2$  is selected from the group consisting of  $C_{1-16}$  alkyl,

$m$  is an integral value from 0 to 5 inclusive; and

$n$  is an integral value from 1 to 2,

bisphenol-A phosphites of formula (IV)



(IV)

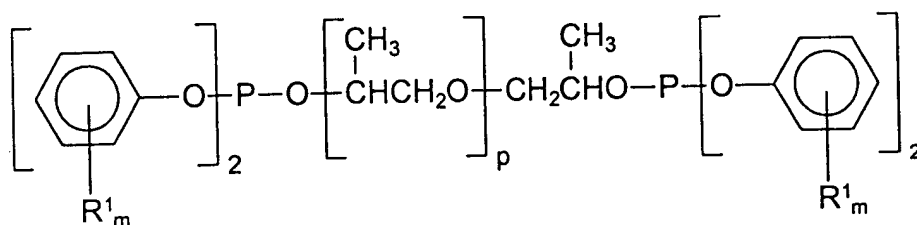
wherein

$R^1$  is as defined previously;

$R^3$  is  $C_{8-18}$  alkyl; and

$m$  is an integral value from 0 to 5 inclusive,

polydialkylene glycol phosphites of formula (V)



(V)

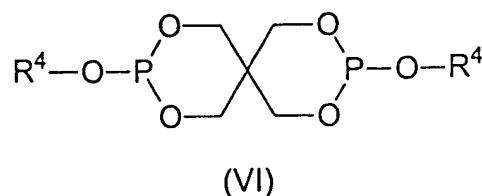
wherein:

$R^1$  is as defined previously;

$m$  is an integral value from 0 to 5 inclusive; and

$p$  is an integral value from 0 to 1 inclusive,

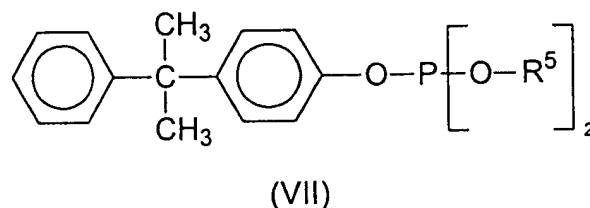
pentaerythritol phosphites of formula (VI)



wherein:

$R^4$  is selected from the group consisting of  $C_{8-16}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy, and

*p*-cumyl phenol phosphite is of formula (VII)

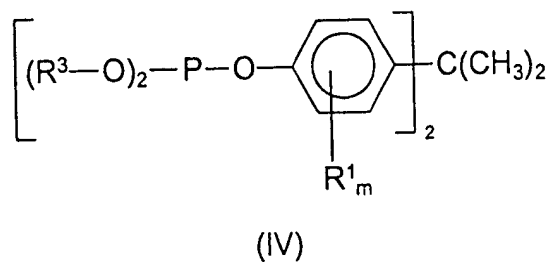


wherein:

$R^5$  is independently selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy.

49. The composition of claim 48 wherein said at least one phosphite ester is selected from the group consisting of

bisphenol-A phosphites of formula (IV)



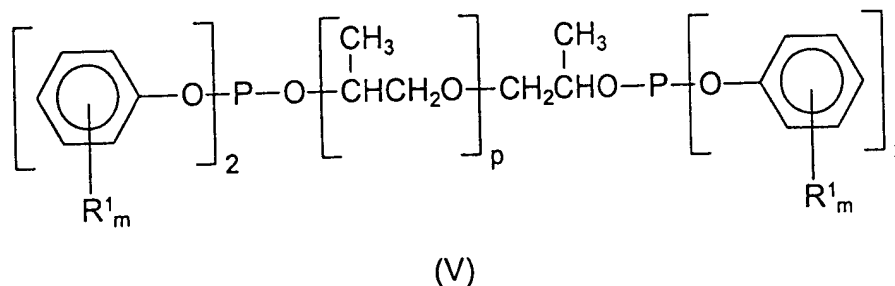
wherein

$R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and

$R^3$  is  $C_{8-18}$  alkyl; and

$m$  is an integral value from 0 to 5 inclusive,

polydialkylene glycol phosphites of formula (V)



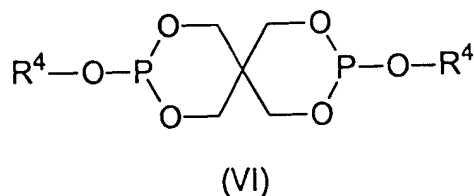
wherein:

$R^1$  is as defined previously;

$m$  is an integral value from 0 to 5 inclusive; and

$p$  is an integral value from 0 to 1 inclusive, and

pentaerythritol phosphites of formula (VI)



wherein:

$R^4$  is selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy.

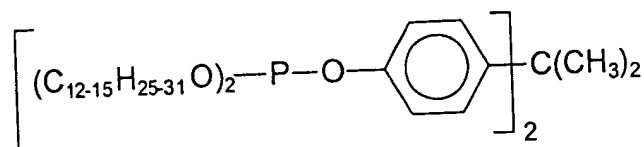
50. The composition of claim 49 wherein

(a) said composition is essentially free of barium, cadmium and calcium.

51. The composition of claim 50 wherein

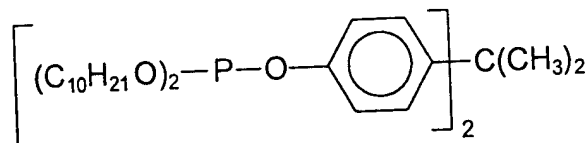
(a) said phosphite ester is selected from the group consisting of

$C_{12-15}$  bisphenol-A phosphite of formula (VIII)



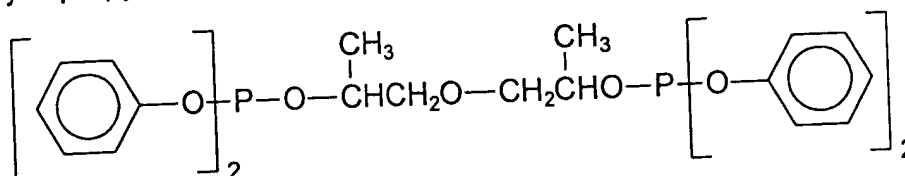
(VIII)

$C_{10}$  bisphenol-A phosphite of formula (IX)



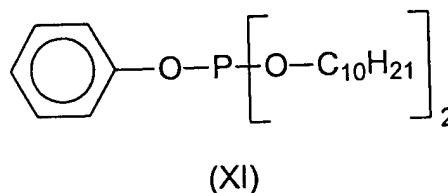
(IX)

tetraphenyl dipropylene glycol diphosphite of formula (X)

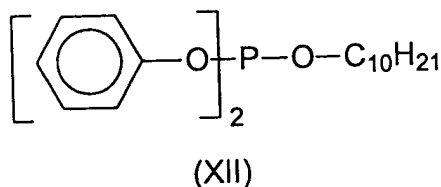


(X)

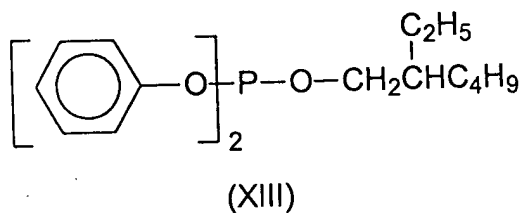
phenyl diisodecyl phosphite of formula (XI)



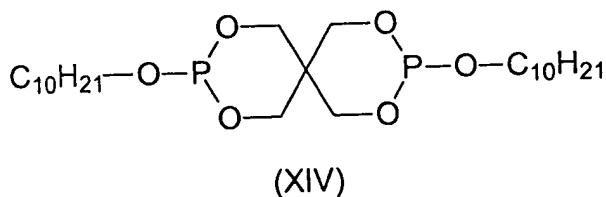
diphenyl isodecyl phosphite of formula (XII)



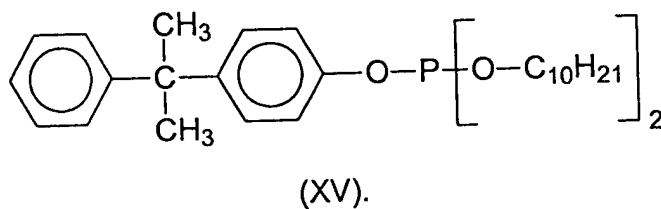
diphenyl 2-ethylhexyl phosphite of formula (XIII)



diisodecyl PE diphosphite of formula (XIV), and



mono *p*-cumyl phenol diisodecyl phosphite of formula (XV)

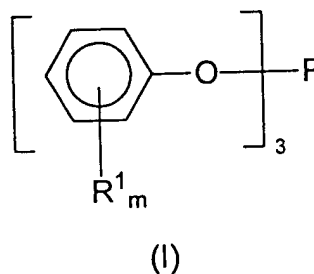


52. A resin composition comprising:

- (a) a halogenated resin;
- (b) at least one phosphite ester selected from the group consisting of aryl phosphites, alkyl phosphites, aryl/alkyl phosphites, bisphenol-A phosphites,



- dialkylene glycol phosphites and polydialkylene glycol phosphites, pentaerythritol phosphites, *p*-cumyl phenol phosphites and blends thereof;
- (c) approximately 50 to 800 ppm zinc per 100 parts resin; and
- (d) a molar ratio of P/Zn of about 80:1 to 4:1.
53. The composition of claim 52 wherein
- (a) said zinc is from approximately 100 to 500 ppm; and
- (b) said molar ratio of P/Zn is about 75:1 to 6:1.
54. The composition of claim 53 wherein
- (a) said zinc is from approximately 100 to 250 ppm; and
- (b) said molar ratio of P/Zn is about 73:1 to 8:1.
55. The composition of claim 52 wherein said at least one phosphite ester is selected from the group consisting of
- aryl phosphites of formula (I)

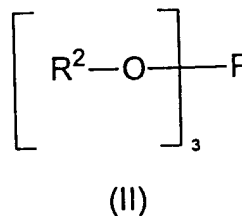


wherein:

$R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and

$m$  is an integral value from 0 to 5 inclusive,

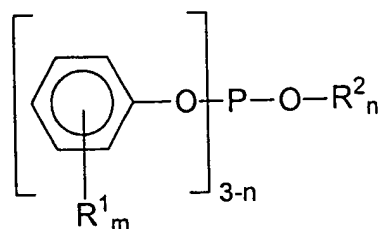
alkyl phosphites of formula (II)



wherein:

$R^2$  is selected from the group consisting of  $C_{1-18}$  alkyl,

alkyl/aryl phosphites of formula (III)



(III)

wherein:

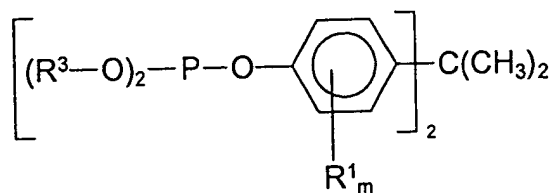
$R^1$  is as previously defined;

$R^2$  is as previously defined;

$m$  is an integral value from 0 to 5 inclusive; and

$n$  is an integral value from 1 to 2,

bisphenol-A phosphites of formula (IV)



(IV)

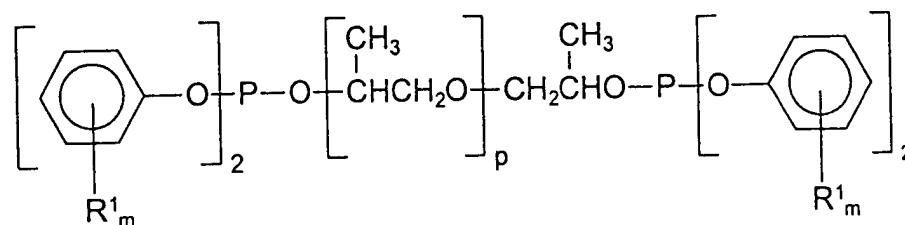
wherein

$R^1$  is as defined previously;

$R^3$  is  $C_{8-18}$  alkyl; and

$m$  is an integral value from 0 to 5 inclusive,

polydialkylene glycol phosphites of formula (V)

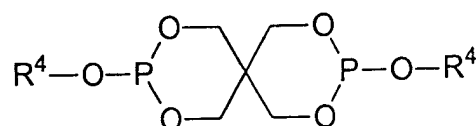


(V)

wherein:

- R¹ is as defined previously;
- m is an integral value from 0 to 5 inclusive; and
- p is an integral value from 0 to 1 inclusive,

pentaerythritol phosphites of formula (VI)

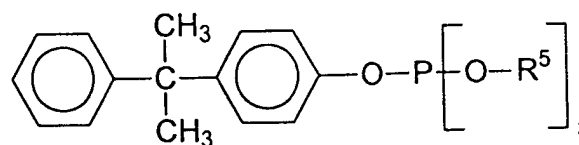


(VI)

wherein:

- R⁴ is selected from the group consisting of C<sub>8-18</sub> alkyl; C<sub>6-30</sub> aryl, C<sub>6-30</sub> fused aryl rings, C<sub>7-35</sub> alkaryl, C<sub>7-35</sub> arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl, C<sub>1-4</sub> alkyl, and C<sub>1-4</sub> alkoxy, and

*p*-cumyl phenol phosphites of formula (VII)



(VII)

wherein:

$R^5$  is independently selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy.

56. The composition of claim 55 wherein

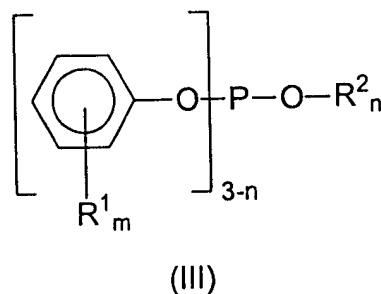
(a) a percentage weight loss of said composition as measured as a difference between a start and an end weight of said composition as measured after exposure to two hours at  $110^{\circ}\text{C}$ , is less than 1% by weight.

57. The composition of claim 56 wherein

(a) a percentage weight loss is less than 0.5% by weight.

58. The composition of claim 57 wherein said at least one phosphite ester is selected from the group consisting of

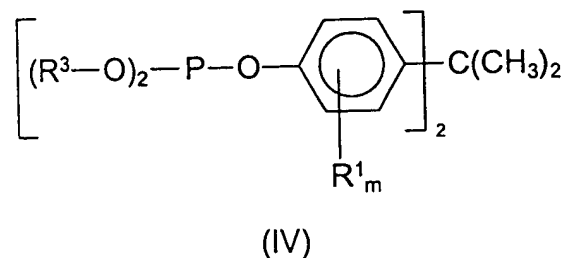
alkyl/aryl phosphites of formula (III)



wherein:

- $R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and  
 $R^2$  is selected from the group consisting of  $C_{1-18}$  alkyl,  
 $m$  is an integral value from 0 to 5 inclusive; and  
 $n$  is an integral value from 1 to 2,

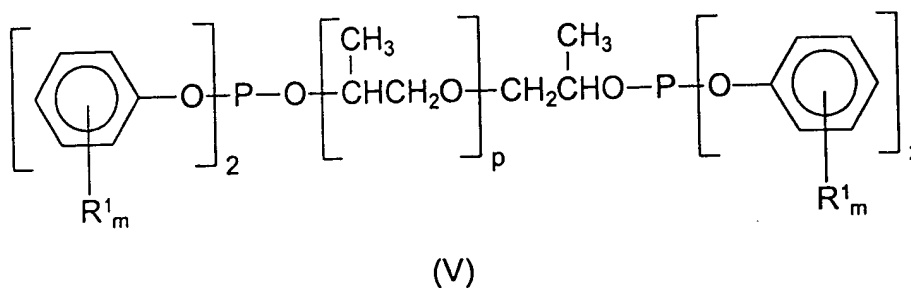
bisphenol-A phosphites of formula (IV)



wherein

- $R^1$  is as defined previously;  
 $R^3$  is  $C_{8-18}$  alkyl; and  
 $m$  is an integral value from 0 to 5 inclusive,

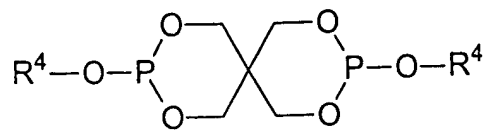
polydialkylene glycol phosphites of formula (V)



wherein:

- $R^1$  is as defined previously;  
 $m$  is an integral value from 0 to 5 inclusive; and  
 $p$  is an integral value from 0 to 1 inclusive,

pentaerythritol phosphites of formula (VI)

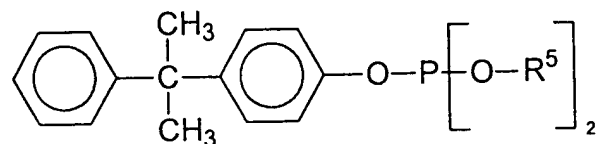


(VI)

wherein:

R<sup>4</sup> is selected from the group consisting of C<sub>8-18</sub> alkyl; C<sub>6-30</sub> aryl, C<sub>6-30</sub> fused aryl rings, C<sub>7-35</sub> alkaryl, C<sub>7-35</sub> arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl, C<sub>1-4</sub> alkyl, and C<sub>1-4</sub> alkoxy, and

p-cumyl phenol phosphite is of formula (VII)

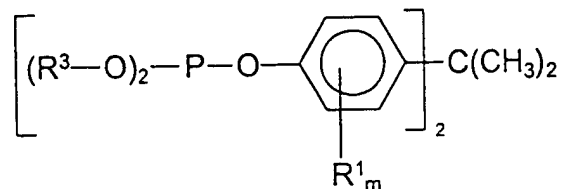


(VII)

wherein:

R<sup>5</sup> is independently selected from the group consisting of C<sub>8-18</sub> alkyl; C<sub>6-30</sub> aryl, C<sub>6-30</sub> fused aryl rings, C<sub>7-35</sub> alkaryl, C<sub>7-35</sub> arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl, C<sub>1-4</sub> alkyl, and C<sub>1-4</sub> alkoxy.

59. The composition of claim 58 wherein said at least one phosphite ester is selected from the group consisting of  
bisphenol-A phosphites of formula (IV)



(IV)

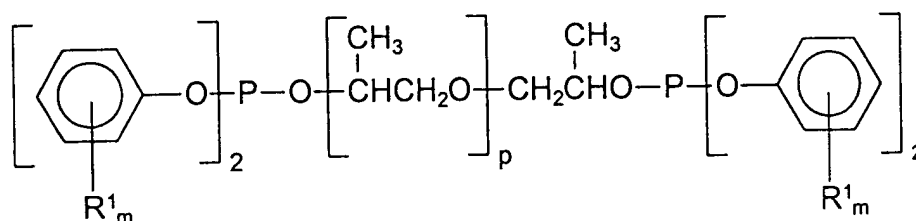
wherein

$R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and

$R^3$  is  $C_{8-18}$  alkyl; and

$m$  is an integral value from 0 to 5 inclusive,

polydialkylene glycol phosphites of formula (V)



(V)

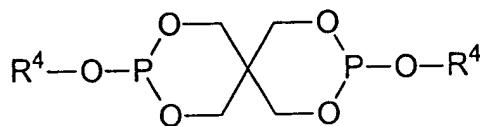
wherein:

$R^1$  is as defined previously;

$m$  is an integral value from 0 to 5 inclusive; and

$p$  is an integral value from 0 to 1 inclusive, and

pentaerythritol phosphites of formula (VI)



(VI)

wherein:

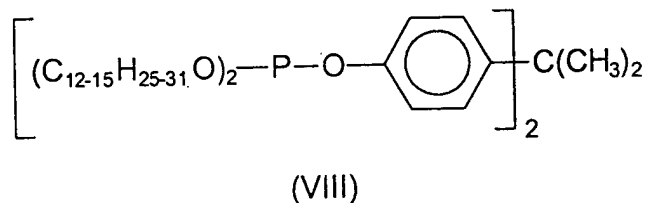
$R^4$  is selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy.

60. The composition of claim 59 wherein said composition is essentially free of barium, cadmium and calcium.

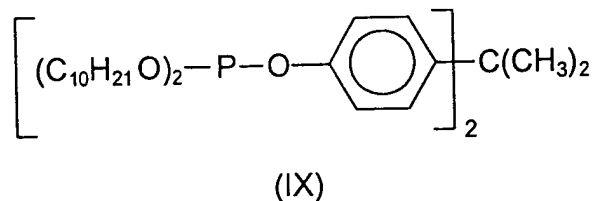
61. The composition of claim 60 wherein

(a) said phosphite ester is selected from the group consisting of

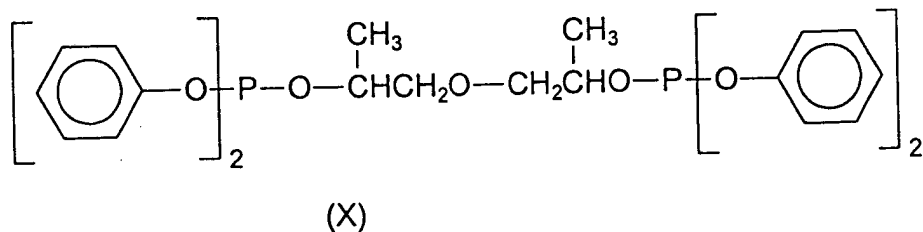
$C_{12-15}$  bisphenol-A phosphite of formula (VIII)



$C_{10}$  bisphenol-A phosphite of formula (IX)

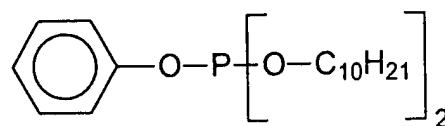


Tetraphenyl dipropylene glycol diphosphite of formula (X)



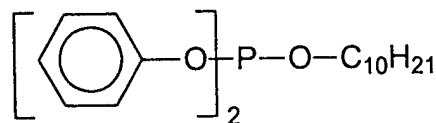
phenyl diisodecyl phosphite of formula (XI)





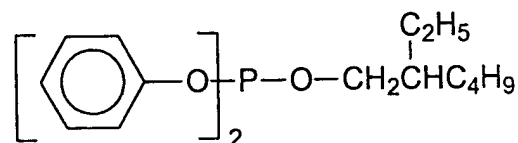
(XI)

diphenyl isodecyl phosphite of formula (XII)



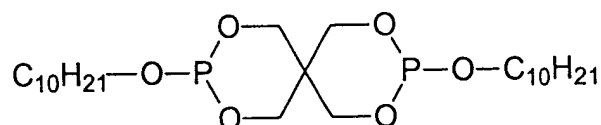
(XII)

diphenyl 2-ethylhexyl phosphite of formula (XIII)



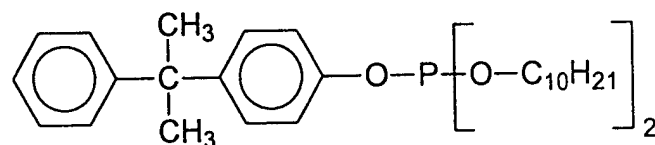
(XIII)

diisodecyl PE diphosphite of formula (XIV) and



(XIV)

mono p-cumyl phenol diisodecyl phosphite of formula (XV)



(XV)

62. An essentially toxic-metal free liquid additive composition for use as at least a partial replacement of toxic metal stabilizer additive compositions for use in vinyl-containing resins, wherein the essentially toxic-free composition consists essentially of:

- (a) at least one phosphite ester selected from the group consisting of aryl phosphites, alkyl phosphites, aryl/alkyl phosphites, bisphenol-A phosphites,

dialkylene glycol phosphites and polydialkylene glycol phosphites, pentaerythritol phosphites, p-cumyl phenol phosphites and blends thereof; and  
(b) an effective amount of zinc; and further wherein a molar ratio of P/Zn is from approximately 0.05 to 0.4% zinc to approximately 4 to 10% phosphorus.

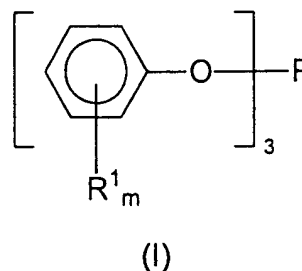
63. The composition of claim 62 wherein

- (a) said zinc is from approximately 100 to 500 ppm; and
- (b) said molar ratio of P/Zn is from approximately 0.1 to 0.3% zinc to approximately 5 to 8% phosphorus.

64. The composition of claim 63 wherein

- (a) said zinc is from approximately 100 to 250 ppm; and
- (b) said molar ratio of P/Zn is from approximately 0.15 to 0.25% zinc to approximately 6 to 7% phosphorus.

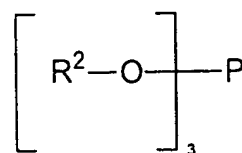
65. The composition of claim 62 wherein said at least one phosphite ester is selected from the group consisting of  
aryl phosphites of formula (I)



wherein:

- $R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and
- $m$  is an integral value from 0 to 5 inclusive,

alkyl phosphites of formula (II)

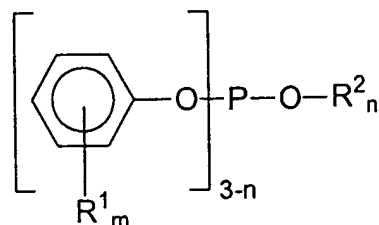


(II)

wherein:

$\text{R}^2$  is selected from the group consisting of  $\text{C}_{1-18}$  alkyl,

alkyl/aryl phosphites of formula (III)



(III)

wherein:

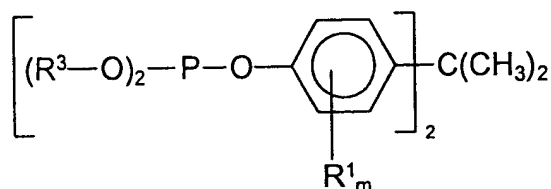
$\text{R}^1$  is as previously defined;

$\text{R}^2$  is as previously defined;

$m$  is an integral value from 0 to 5 inclusive; and

$n$  is an integral value from 1 to 2,

bisphenol-A phosphites of formula (IV)



(IV)

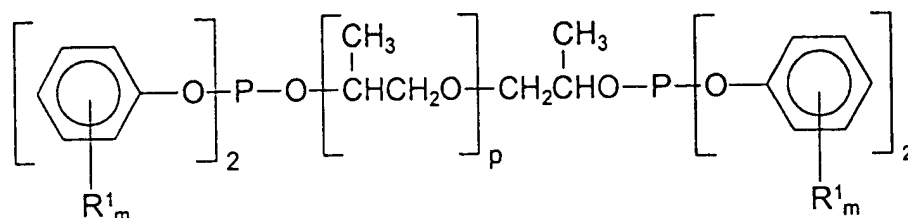
wherein

$\text{R}^1$  is as defined previously;

$\text{R}^3$  is  $\text{C}_{8-18}$  alkyl; and

$m$  is an integral value from 0 to 5 inclusive,

polydialkylene glycol phosphites of formula (V)



(V)

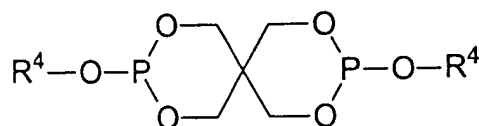
wherein:

$R^1$  is as defined previously;

$m$  is an integral value from 0 to 5 inclusive; and

$p$  is an integral value from 0 to 1 inclusive,

pentaerythritol phosphites of formula (VI)

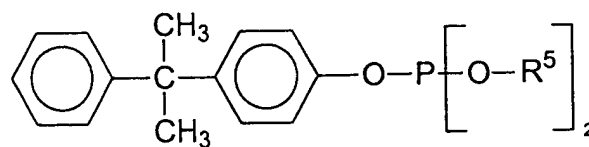


(VI)

wherein:

$R^4$  is selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy, and

p-cumyl phenol phosphites of formula (VII)



(VII)

wherein:

$R^5$  is independently selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy.

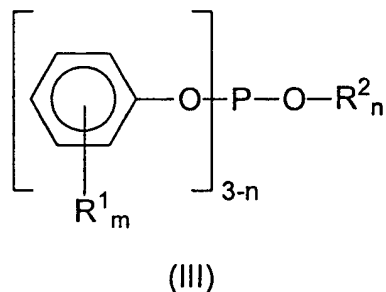
66. The composition of claim 65 wherein

(a) a percentage weight loss of said composition as measured as a difference between a start and an end weight of said composition as measured after exposure to two hours at  $110^{\circ}\text{C}$ , is less than 1% by weight.

67. The composition of claim 66 wherein

(a) a percentage weight loss is less than 0.5% by weight.

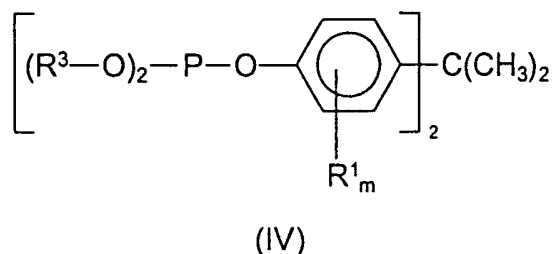
68. The composition of claim 67 wherein said at least one phosphite ester is selected from the group consisting of  
alkyl/aryl phosphites of formula (III)



wherein:

- $R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and  
 $R^2$  is selected from the group consisting of  $C_{1-18}$  alkyl,  
 $m$  is an integral value from 0 to 5 inclusive; and  
 $n$  is an integral value from 1 to 2,

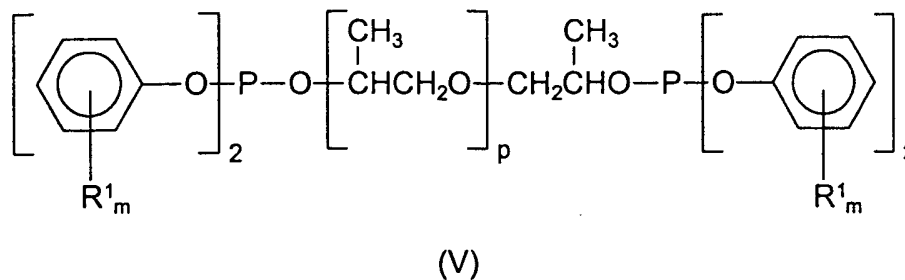
bisphenol-A phosphites of formula (IV)



wherein

- $R^1$  is as defined previously;  
 $R^3$  is  $C_{8-18}$  alkyl; and  
 $m$  is an integral value from 0 to 5 inclusive,

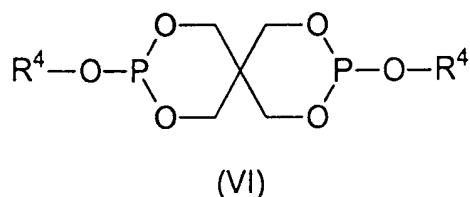
polydialkylene glycol phosphites of formula (V)



wherein:

- $R^1$  is as defined previously;  
 $m$  is an integral value from 0 to 5 inclusive; and  
 $p$  is an integral value from 0 to 1 inclusive,

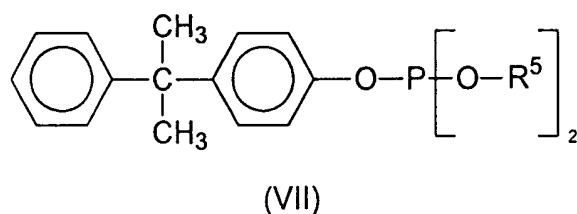
pentaerythritol phosphites of formula (VI)



wherein:

$R^4$  is selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy, and

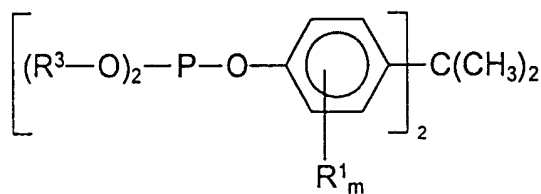
p-cumyl phenol phosphite is of formula (VII)



wherein:

$R^5$  is independently selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy.

69. The composition of claim 68 wherein said at least one phosphite ester is selected from the group consisting of  
bisphenol-A phosphites of formula (IV)



(IV)

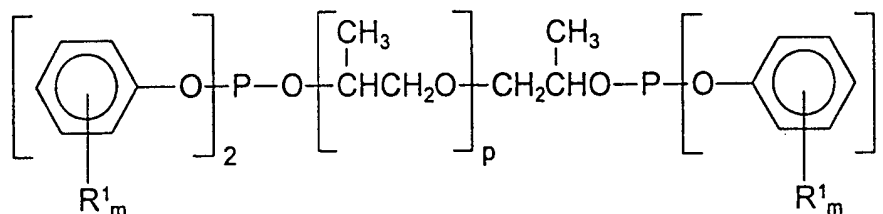
wherein

$R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and

$R^3$  is  $C_{8-18}$  alkyl; and

$m$  is an integral value from 0 to 5 inclusive,

polydialkylene glycol phosphites of formula (V)



(V)

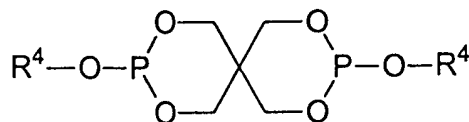
wherein:

$R^1$  is as defined previously;

$m$  is an integral value from 0 to 5 inclusive; and

$p$  is an integral value from 0 to 1 inclusive, and

pentaerythritol phosphites of formula (VI)



(VI)



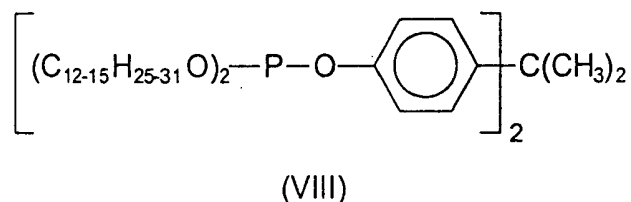
wherein:

$R^4$  is selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy.

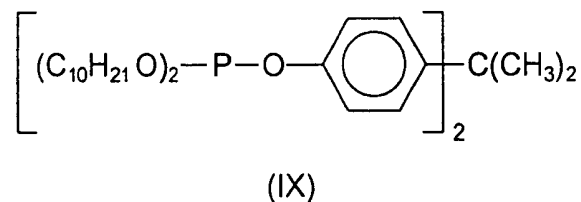
70. The composition of claim 69 wherein said composition is essentially free of barium, cadmium and calcium.

71. The composition of claim 70 wherein

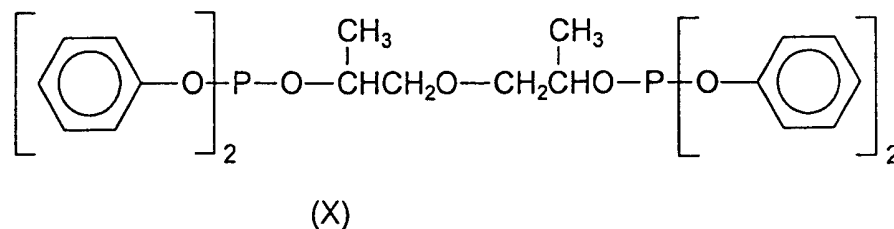
(a) said phosphite ester is selected from the group consisting of  
 $C_{12-15}$  bisphenol-A phosphite of formula (VIII)



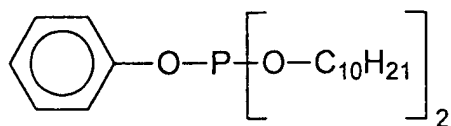
$C_{10}$  bisphenol-A phosphite of formula (IX)



tetraphenyl dipropylene glycol diphosphite of formula (X)

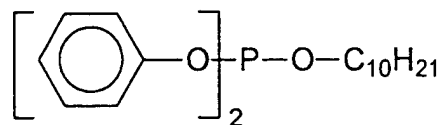


phenyl diisodecyl phosphite of formula (XI)



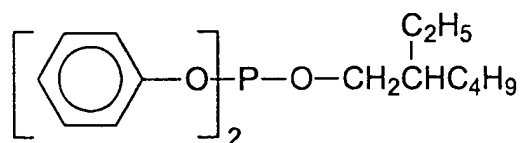
(XI)

diphenyl isodecyl phosphite of formula (XII)



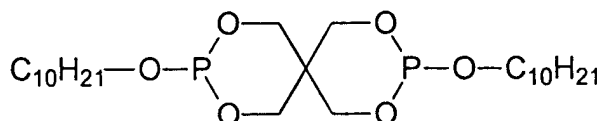
(XII)

diphenyl 2-ethylhexyl phosphite of formula (XIII)



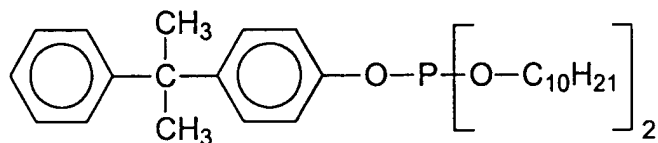
(XIII)

diisodecyl PE diphosphite of formula (XIV) and



(XIV)

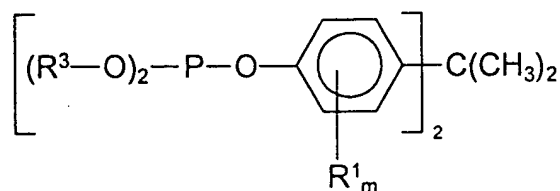
mono p-cumyl phenol diisodecyl phosphite of formula (XV)



(XV)

72.A additive composition for polyvinyl chloride resin which comprises:

- (a) at least one phosphite ester selected from the group consisting of  
 bisphenol-A phosphites of formula (IV)



(IV)

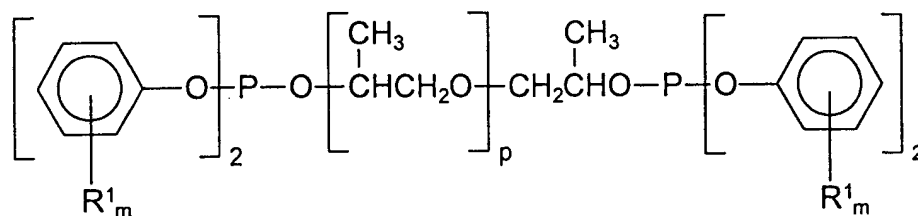
wherein

$R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and

$R^3$  is  $C_{8-18}$  alkyl; and

$m$  is an integral value from 0 to 5 inclusive,

polydialkylene glycol phosphites of formula (V)



(V)

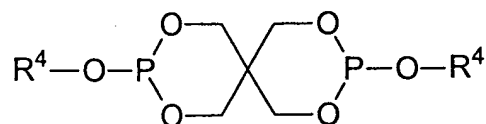
wherein:

$R^1$  is as defined previously;

$m$  is an integral value from 0 to 5 inclusive; and

$p$  is an integral value from 0 to 1 inclusive,

pentaerythritol phosphites of formula (VI)

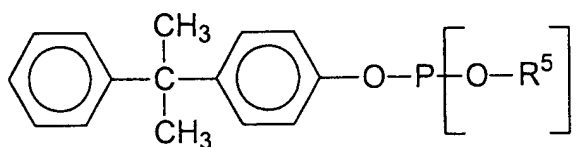


(VI)

wherein:

$R^4$  is selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy, and

p-cumyl phenol phosphite is of formula (VII)



(VII)

wherein:

$R^5$  is independently selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy; and

(b) approximately 50 to 800 ppm zinc per 100 parts resin.

73. The composition of claim 72 wherein

- (a) said phosphite esters range from approximately about 1 to 8 phr inclusive; and
- (b) said zinc ranges from approximately about 50 to 800 ppm and further wherein said zinc is from a zinc carboxylate.

74. The composition of claim 73 wherein

- (a) said phosphite esters range from approximately about 2 to 4 phr inclusive; and

(b) said zinc carboxylate ranges from approximately about 100 to 500 ppm and further wherein said zinc carboxylate is selected from the group consisting of zinc octoate, zinc 2-ethylhexoate, zinc hexoate, zinc neodecoate, zinc decoate, zinc dodecanoate, zinc isostearate, zinc oleate, zinc stearate, zinc tallow fatty acids, zinc palmitate, zinc myristate, zinc laurate, and zinc benzoate.

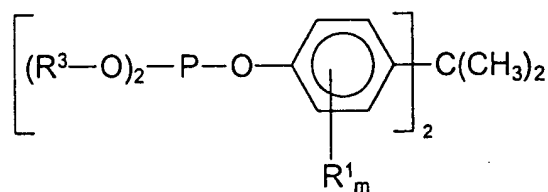
75. The composition of claim 74 wherein

(a) said phosphite esters range from approximately about 2 to 4 phr inclusive; and

(b) said zinc carboxylate ranges from approximately about 100 to 250 ppm.

76. The composition of claim 75 wherein

(a) said phosphite is selected from the group consisting of bisphenol-A phosphites of formula (IV)



(IV)

wherein

$R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens; and

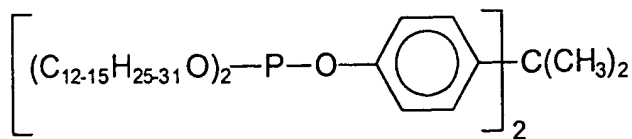
$R^3$  is  $C_{8-18}$  alkyl; and

$m$  is an integral value from 0 to 5 inclusive,

77. The composition of claim 76 wherein

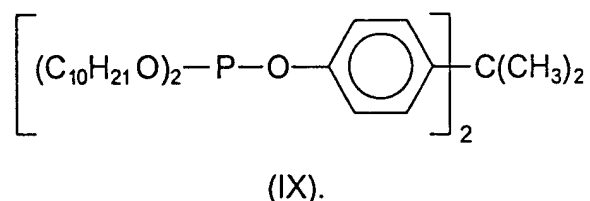
(a) said phosphite ester is selected from the group consisting of

$C_{12-15}$  bisphenol-A phosphite of formula (VIII) and



(VIII)

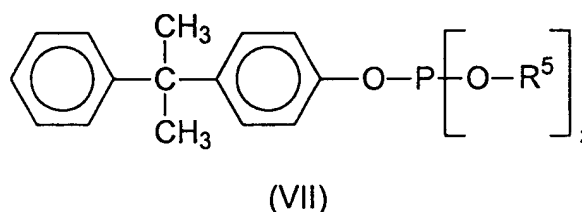
C<sub>10</sub> bisphenol-A phosphite of formula (IX)



78. The composition of claim 72 wherein

(a) said phosphite ester is

p-cumyl phenol phosphite is of formula (VII)

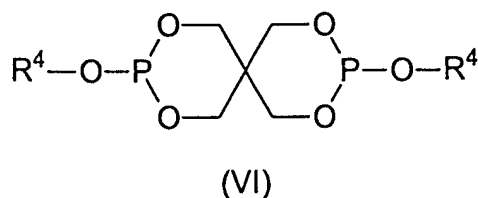


wherein:

R<sup>5</sup> is independently selected from the group consisting of C<sub>8-18</sub> alkyl; C<sub>6-30</sub> aryl, C<sub>6-30</sub> fused aryl rings, C<sub>7-35</sub> alkaryl, C<sub>7-35</sub> arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl, C<sub>1-4</sub> alkyl, and C<sub>1-4</sub> alkoxy.

79. The composition of claim 72 wherein

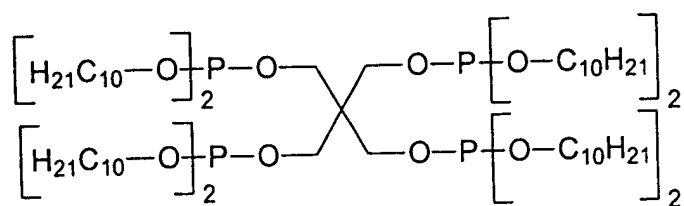
(a) said phosphite is selected from the group consisting of pentaerythritol phosphite of formula (VI)



wherein:

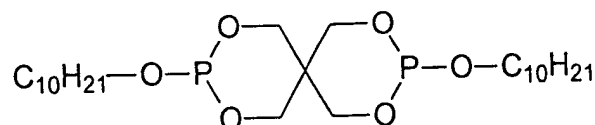
$R^4$  is selected from the group consisting of  $C_{8-18}$  alkyl;  $C_{6-30}$  aryl,  $C_{6-30}$  fused aryl rings,  $C_{7-35}$  alkaryl,  $C_{7-35}$  arylalkyl, and substituted derivatives thereof, wherein the substituents are selected from the group consisting of halogens, hydroxyl,  $C_{1-4}$  alkyl, and  $C_{1-4}$  alkoxy, and

PE phosphite of the following formula



80. The composition of claim 79 wherein

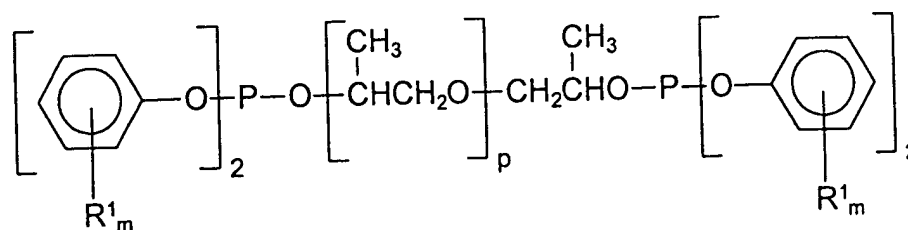
(a) said phosphite is



81. The composition of claim 72 wherein

(a) said phosphite ester is a

polydialkylene glycol phosphite of formula (V)



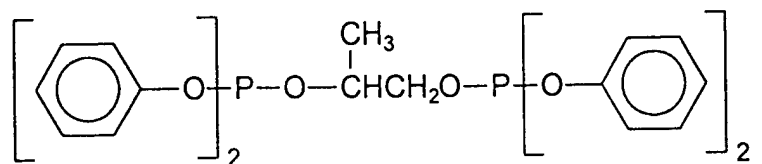
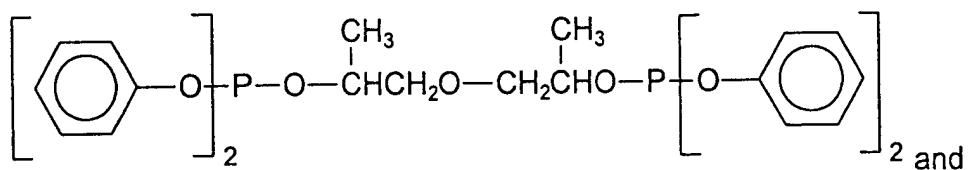
(V)

wherein:

- $R^1$  is independently selected from the group consisting of H,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkoxy, halogens;
- m is an integral value from 0 to 5 inclusive; and
- p is an integral value from 0 to 1 inclusive.

82. The composition of claim 81 wherein

(a) said polydialkylene glycol phosphite is selected from the group consisting of





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***Claim to Priority***

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The examiner has noted that an incorrect claim to priority under 35 U.S.C. §119(e) was made. As suggested by the examiner, a petition has been filed with the Petitions Office in conjunction with a corrected declaration which identifies the correct filing date of the provisional application, an inadvertent mistake. In reviewing the file, it is apparent that reliance was placed on the handwritten return card received from the office of another law firm in identifying the filing date. When the complete file was provided by the other law firm, it was noted that there was an inconsistency between the handwritten date and the date identified by the Patent Office on the filing receipt.

Upon the granting of the Petition, it is respectfully submitted that this inadvertent error is corrected and the claim to priority will be allowed. A copy of the Petition is attached to this amendment response for the benefit of the examiner.

Should the Petitions Office grant the above submitted Petition, the applicant's attorney respectfully requests that the following amendment be made to page 1 of the specification. After the title, and before the Technical Field of the Invention, please insert

-- This application claims priority from United States provisional patent application serial number 60/273,303 filed March 2, 2001, United States provisional patent application serial number 60/314,181 filed March 16, 2001, and United States provisional patent application serial number 60/315,746 filed August 29, 2001. --

A replacement page has been provided.

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**Status**

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The application presently contains the following claims:

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<i>Independent Claim #</i>	<i>Dependent Claim #s</i>
42	43-51
52	53-61
62	63-71
72	73-82

---

Claims 1-41 are deleted in this amendment while claims 42-82 are newly submitted. Support for the newly submitted claims may be found in the originally submitted claims. The applicant's attorney thanks the examiner for his thorough examination and the observations contained within the office action. The inventors and their attorney respectfully disagree with many of the conclusions drawn by the examiner with regard to the *Prior Art*, and through the thorough response presented, solicit the examiner to revisit his initial conclusions regarding the patentability of this invention.

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***U.S.C. §112, Second paragraph and Responsive Arguments***

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The examiner has rejected claims 1-41 under this section as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner has pointed out to the use of the term "resin" is the issue when the disclosure was represented to teach that the invention was substantially free of any resin.

The applicants' attorney is completely puzzled by this rejection in that the additive was always for use in a resin, the improvement coming from the partial or total elimination of heavy-metals which typically are included in a resin additive package, particularly for PVC. However, the examiner does bring up a good point and the independent claims have been rewritten to recite that the polymer additive is intended for use in a resin. The amount of zinc added has also been corrected. Support for this correction may be found in paragraph [0026].

The examiner has additionally rejected claims 32-34 which recite amounts of a component (a) in terms of "phr" which normally refers to a dosage in a resin, which the examiner has represented to contradict his understanding of the invention which was to be substantially free of resin. Once again, the applicant's attorney regrets that any confusion may have been caused by the phraseology in the claims. The phosphite ester is added into a resin at the phr level whereas catalytic amounts of zinc are added, typically at the ppm level. The inconsistency noted has been corrected in the identified claims.

The examiner has also rejected claims 1-41 under this paragraph in that the phraseology regarding the amount of zinc rendered the claims unclear. As identified in the previous paragraph, this issue has been addressed in other independent claims in addition to the claims identified previously.

The examiner has rejected claims 33-36 and identified an extraneous comma present between "zinc" and "decoate" in claim 33 rendering the claim unclear as well as those depending from it. This careful reading of the claims is appreciated and the comma has been removed, thereby addressing and overcoming the issue raised.

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***U.S.C. §112, First paragraph and Responsive Arguments***

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The examiner has rejected claims 1-31 and 37-41 under this section, in that the specification was represented to only provide support for zinc compounds and not zinc metal. As stated in the patent application as filed, for example, in published application, paragraph [0032], the specification talks about the addition of an "effective amount of an active zinc compound sufficient to ensure that the overall zinc level in the vinyl compounds (based on 100 parts per hundred parts resin, i.e., phr) falls within a range of about 50 to about 800 ppm, more preferably..." As clearly shown in the paragraph, the key is the level of zinc in the vinyl compound, not the amount of zinc compound.

Still further support can be found in paragraph [0026] wherein it is stated that the level of zinc is stated to be based by "maintaining or adjusting the overall zinc level in the vinyl compound to achieve or maintain a level of zinc of 50 to 800 ppm resin, preferably ..." Once again, the key is the level of zinc in the vinyl compound, not the amount of zinc compound.

Additionally, in various locations, the term "carboxylate" was substituted for the term "compound" when the zinc was so further limited. Support for this amendment can be found in the published application, paragraph [0032] as originally filed.

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***Claim Objections and Responsive Arguments***

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The examiner has objected to claim 39 as being of improper dependent form for failing to limit the subject matter of a previous claim. The examiner has correctly noted the issue and claim 38 has now been rewritten into Markush form whereas claim 39 has been limited to a single species.

The examiner has objected to claim 41 as being of improper dependency due to an incorrect structure at page 8, #10. The correct structure has now been incorporated into the specification thereby addressing the objection to claim 41. A replacement page has been provided.

The examiner additionally noted that the structure noted in claim 41 would only be unique when  $p=0$ . The examiner's observation was once again, correct, and the appropriate modification to claim 41 has been made, thereby removing the objection to this claim.

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### ***Objections to the Specification and Responsive Arguments***

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The examiner has objected to the specification regarding the inconsistent use of phr, and has noted page 9, lines 9-10. This confusing terminology has been removed and a replacement page is submitted herewith.

The examiner has also noted this inconsistency in Table IX. This objection is believed to have been overcome by correctly identifying the quantity of resin as 100, rather than 98. A replacement page has been provided.

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### ***35 U.S.C. §102 Rejection & Responsive Arguments***

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The examiner has rejected claims 1-10 under this section, subparagraph (b) as being anticipated by Valdiserri (US 4,614,756 hereinafter '756). The examiner noted that the claims use the term "comprising" and therefore, do not exclude the tin additive of '756. The applicant's attorney would respectfully request the examiner revisit his conclusion in light of the following arguments.

#### ***Valdiserri '756***

*Valdiserri '756* teaches the use of zinc at a level of 0.125 to 0.25 phr (or equivalently 1250 to 2500 ppm). See Tables 1-2 and Examples #19-20. By contrast, the *Stevenson et al.*, invention uses zinc in the resin at a level of 50-800 ppm. This is more than an order of magnitude greater than the minimum amount of Zn in the resin required by *Stevenson et al.*, and more than 3 times the maximum. This is simply not a §102 reference as applied to the claims as currently pending in the application. Additionally, it must be noted that the goal of *Valdiserri* was to reduce the amount of organo tin mercaptide used. There is no teaching in the '756 patent of how it can be eliminated. In fact, the patent teaches that it is required.

It is important to place this technology into context. Tin stabilizers can be divided into two main groups, the first containing stabilizers with tin-oxygen bonds and the second stabilizers with tin-sulfur bonds. In the first group are tin carboxylates, which provide an excellent light and weathering stability to PVC products and find rising use

particularly in outdoor applications. Some examples are transparent panels and translucent double-wall panels for greenhouses. Specific stabilizers within this group include octyltinmaleates, which are approved for the production of blow molding films, like candy wrapping.

The second group is often described as tin mercaptides. These stabilizers are highly efficient and allow the production of crystal clear, rigid vinyl articles even under high-demanding processing conditions. ***Tin mercaptides have a typical characteristic odor, which might be nuisance during processing.*** They show moderate light-stability. The most powerful compounds within the mercaptide class are the mercapto-acetate (thioglycolate) ester derivatives and these are the most common tin compounds applied today. The tin mercaptides are usually mixtures of di-alkyl and mono-alkyl tin-compounds, of which the ratio can be varied to create stabilizers with best performance, mainly dependent upon the used PVC-type and the end-use application.

It is only the *Stevenson et al.*, invention that shows how organo tin mercaptide can be eliminated with the attendant benefit of removing any maliferous odor typically associated with mercaptides.

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### ***35 U.S.C. §103 Rejection & Responsive Arguments***

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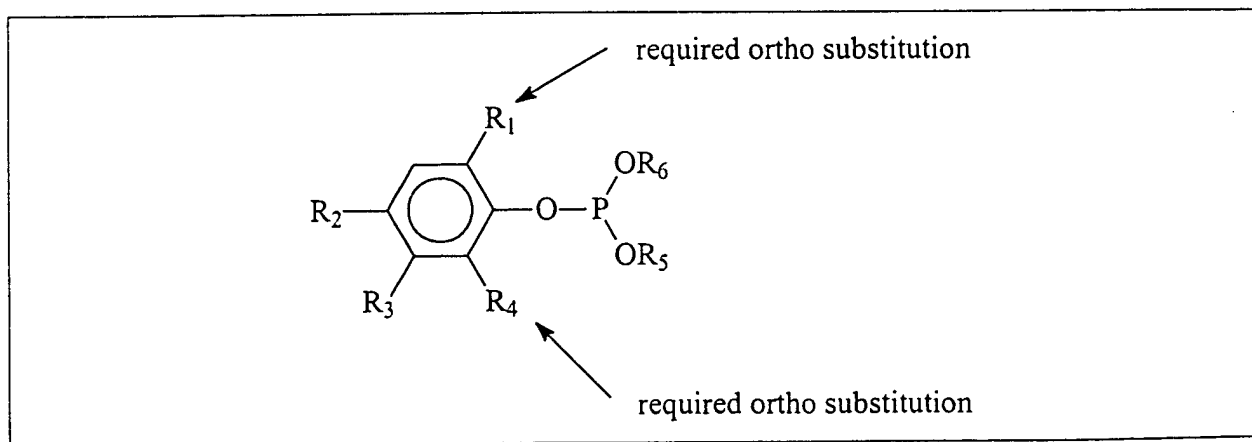
#### ***Minagawa et al., '756***

The examiner has rejected claims 1-7 and 9-13 under this section, subparagraph (a) over *Minagawa et al.*, US 4,282,141 ('141).

The examiner has identified col 10, lines 55-65 as pertinent wherein the amount of metal salt used was identified as ranging from 0.01 to 10 per 100 parts resin. While this is correct, it is equally important to note that the patent requires the use of a 1,3-diketone compound in conjunction with the metal salt. The essence of the invention involves the formation of zinc coordination complexes with the diketone, a facet which is not present in the *Stevenson et al.*, invention.

This is significant in that an emerging goal in the stabilizer industry is to develop nonfugitive liquid stabilizers that are nonfugitive both during and subsequent to the processing of PVC compounds and fabricated products. Many commercial liquid mixed metal heat stabilizers, because of their complex compositions and inherent reactivity, give rise to undesirable fugitive emissions during and subsequent to the processing of PVC compositions in which they are contained. These fugitive emissions manifest themselves as odors, vapors, and reportable VOC's in the work area. They often concurrently result in the deposition of incompatible, sticky deposits (plate out) on processing equipment. In their worst form, fugitive species continue to be emitted slowly from fabricated vinyl films and articles giving rise to downstream odors, monomolecular films and tacky exudates which interfere with printing operations and generally detract from the aesthetic qualities of the PVC article. The volatility characteristics are inherent based on the choice of any combination of materials. However, it is the express choice of *Stevenson et al.*, to exclude volatiles which is a distinguishing feature of the invention.

The *Minigawa* '141 patent additionally requires double ortho substitution in the phosphites, as clearly shown in the following organic phosphite formula with required ortho substitution. It is the combination of required ortho substitution plus the incorporation of a diketone which leads to the results of *Minigawa*, elements which are not present in *Stevenson et al.* As taught in *Minigawa*, it is the tautomerism of the enol / keto configuration of the diketone which leads to the beneficial result. See col 6, lines 30 through 68.



## House/ '514

The examiner has rejected claims 1-8, 10-18, 20, 31-32 and 38 under this section, subparagraph (a) as unpatentable over *House/*, US 4,340,514 ('514). The examiner has represented that *House/* teaches "non-toxic" liquid stabilizers for halogenated hydrocarbon resins in which zinc is in the form of a carboxylate, and which is compounded with the resin at 0.25 to 4% of the resin which was represented to overlap the claimed levels of zinc. The volatility was represented to be inherent. The examiner did admit that the reference did not disclose mixtures "essentially free" of calcium.

The applicant would respectfully request the examiner to revisit his initial conclusion regarding the amount of zinc which is added to the resin. The 0.25% zinc is equivalent to 2500 phr, a level which is significantly in excess of the 800 ppm levels claimed in the patent.

Additionally, the applicant would respectfully request the examiner to revisit his conclusion regarding the "non-toxic" labeling of the zinc as well as the form of the

### Toxicity Information for Zinc resinate

Top ↑

Note: Information for many chemicals is incomplete and may not be fully representative of effects on humans. [Why?](#)

#### Summary Toxicity Information

PAN Bad Actor  
Chemical <sup>1</sup>



Acute  
Toxicity

?

Carcinogen

Not Likely

Cholinesterase  
Inhibitor

No

Ground  
Water Contaminant

?

Developmental or  
Reproductive Toxin



Endocrine  
Disruptor

?



Indicates high toxicity in the given toxicological category.

?

Indicates no available weight-of-the-evidence summary assessment. For additional information on toxicity from scientific journals or registration documents, see the "Additional Resources for Toxicity" section of the chemical detail page.

1. PAN Bad Actors are chemicals that are one or more of the following: highly acutely toxic, cholinesterase inhibitor, known/probable carcinogen, known groundwater pollutant or known reproductive or developmental toxicant. NOTE! Because there are no authoritative lists of Endocrine Disrupting (ED) chemicals, EDs are not yet considered PAN Bad Actor chemicals.

product, which the examiner characterized as zinc carboxylate. This would appear to be misleading, in that the '514 patent seems to describe it as a zinc resinate. While the patent does indicate that it is the reaction product of a zinc compound with a naturally occurring terpene hydrocarbon mono-carboxylic acid, this product is far from benign as illustrated in the Pesticides Action Network web site, a portion of which is reproduced above, wherein it was indicated to be in a class of "chemicals that are one or more of the following: highly acutely toxic, cholinesterase inhibitor, known/probable carcinogen,



known groundwater pollutant or known reproductive or developmental toxicant."

Once again, as indicted by the examiner, the reference does not teach how to remove the toxicity of the additive, and perhaps in 1982, the publication date of the patent, this risk was unknown.

***Rhodes et al., '200 in view of Nosu et al., '783 and Kotani '030***

The examiner has rejected claims 1-41 under this section, subparagraph (a) as unpatentable over Rhodes et al., (US 3,755,200 or '200) in view of Nosu et al., (US 5,120,783 or '783) and Kotani et al., (US 5,414,030 or '030). The examiner has represented that *Rhodes* teaches liquid stabilizer compositions for PVC comprising phosphite esters and metal carboxylates, including zinc. *Kotani* was represented to show various phosphites within the ordinary skill in the art while *Nosu* was indicated to be relied upon for its teaching that cadmium and barium are undesirable and that zinc and calcium are preferred for their low cost and low toxicity.

The applicant's would respectfully request the examiner to revisit his initial conclusions regarding the patentability of the *Stevenson et al.*, invention in light of the following arguments. First, it is correct that zinc stearate is represented in the Rhodes '200 patent to provide excellent results, however, the patent provides no guidance as to how to remove the additional required components, namely a partial ester of a polyglycerol and an epoxy plasticizer, which are required for this system to be capable of forming a homogeneous solution which does not undergo phase separation when allowed to stand at ambient conditions for prolonged periods of time. Additionally, the '200 patent expressly teaches a specialized process by which the composition must be formed, namely "through the utilization of a specific blending technique which consists of first forming a solution of the metal salt, the epoxy compound and the organo-phosphorous, followed by heating ... The polyglycerol partial ester is then added to the resulting uniform solution and blended therewith." (See col 2, lines 11-24). The *Stevenson et al.*, invention does not require any epoxy compound.

Second, the majority of liquid stabilizer systems are liquid mixed metal soaps

which have similarities to some Ca-Zn stabilizers and are generally in the form of a carboxylate. As in the case of Ca-Zn heat stabilizers, all of these products require the addition of co-stabilizers to provide optimum performance. These are the same type of products as are used with Ca-Zn stabilizers and solvents are sometimes incorporated.

And third, *Rhodes* uses trialkyl phosphites, particularly tris(nonylphenyl) phosphite, (TNPP) which are not particularly suitable for use in the *Stevenson et al.*, invention. The *Rhodes* patent teaches a process in which the key is to heat the zinc stearate into the TNPP. This thrust of this patent is the preparation of improved antistatic and antifogging properties. There is no link that the applicant is aware of that improving these properties have any relationship to improving the heat or light stability of a halogenated resin.

In order to supplement the deficiencies in the teachings of *Rhodes*, the teachings of *Kotani* were combined, which the examiner has represented to stand for the proposition that various phosphites are useful in the invention. However, this is a misapplication of *Kotani* because as clearly evidenced in the '030 patent, the *Kotani* invention is for a (a) a polyolefin resin; (b) a dripping agent; (c) a heat stabilizer; (d) a weather resistance improving agent; and (e) a solution of a hypophosphite compound in an organic solvent. It is certainly not clear why one looking to supplement the teachings of *Rhodes*, would selectively chose to focus on the phosphite heat stabilizers of *Kotani*, particularly when *Rhodes* focuses on polyvinyl resins and *Kotani* focuses on polyolefin resins, two types of resins which are not even in the same class of polymers.

Finally, in order to supplement the deficiencies of the above two references, the examiner has combined the teachings of *Nosu*. However, it is important to note in this patent that once again, in a manner similar to that of *Rhodes*, there are four required elements: namely (a) hydrotalcite; (b) zinc compound; (c) magnesium hydroxide; and (d) a beta-diketone and/or a phosphite compound. It is not clear why a researcher seeking to supplement the deficiencies of *Rhodes* and/or *Kotani* would selectively seek out the teaching that zinc salts are preferred. It would appear to be a fairly selective reading of *Nosu*. Additionally, *Nosu* requires a diketone as part of the additive package, and as was discussed earlier with respect to *Minigawa*, diketones represent fugitive emission

problems, which the *Stevenson et al.*, invention have overcome.

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***Request for Reconsideration***

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Applicant believes that independent claims 42, 52, 62 and 72 clearly define over the prior art and that the distinctions between the present invention and the prior art would not have been obvious to one of ordinary skill in the art. Additionally, claims 43-51 depend from and contain all of the limitations of independent claim 42; claims 53-61 depend from and contain all of the limitations of independent claim 52; claims 63-71 depend from and contain all of the limitations of independent claim 62; and claims 73-82 depend from and contain all of the limitations of independent claim 72; and therefore, by the limitations contained in the base independent claims, are felt to be patentable over the prior art by virtue of their dependency from independent claims which distinguish over the prior art of record. All pending claims are thought to be allowable and reconsideration by the Examiner is respectfully requested.

It is respectfully submitted that no new additional searching will be required by the examiner.

Additionally, the applicant's attorney is providing a Technical Bulletin dated April 2003 prepared by the client regarding this new technology, which may place the invention into perspective.

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***Fee Determination Record***

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A fee determination sheet is attached for this amendment response. The Commissioner is hereby authorized to charge any additional fee required to effect the filing of this document to Account No. 50-0983.

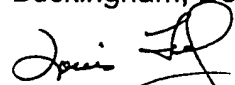
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**Conclusion**

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It is respectfully submitted that all references identified by the examiner have been distinguished in a non-obvious way. If the examiner believes that a telephonic conversation would facilitate a resolution of any and/or all of the outstanding issues pending in this application, then such a call is cordially invited at the convenience of the examiner.

Respectfully Submitted,  
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Attorney Docket #: 47399.0015

## PHOSPHITE ESTER ADDITIVE COMPOSITIONS

This application claims priority from United States provisional patent application serial number 60/273,303 filed March 2, 2001, United States provisional patent application serial number 60/314,181 filed March 16, 2001, and United States provisional patent application serial number 60/315,746 filed August 29, 2001.

### ***Technical Field***

The invention relates generally to improving the performance and reducing the heavy metal content of PVC compounds by the partial or total substitution of conventional mixed metal stabilizers with phosphite esters, or blends thereof, with an effective amount of added zinc.

### ***Background of the Invention***

The PVC industry began with the invention of plasticized polyvinyl chloride ("PVC") by Waldo Semon of the B. F. Goodrich Company in 1933 as an alternative to natural rubber where its non-flammability made it ideal for wire insulation, particularly on naval ships. However, unlike rubber, PVC has a tendency to discolor and is not easy to process well. Stabilization is required to perform two basic functions: (1) prevent discoloration; and (2) absorb hydrogen chloride (HCl) which evolves during process. It is believed that billions of pounds of flexible PVC are employed throughout the world in a wide variety of commercial applications. These include vinyl flooring, wall covering, roofing, pond and pool liners, film, upholstery, apparel, hose, tubing and wire insulation.

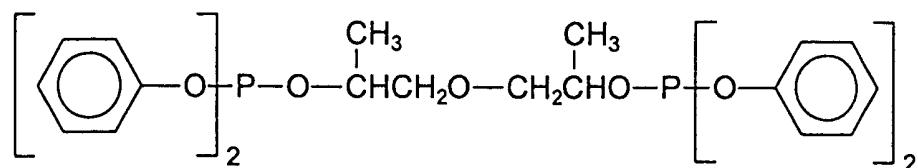
In order to successfully process vinyl compounds into finished vinyl articles by extrusion, calendering or molding, it is necessary to incorporate between one and five percent of a heat stabilizer to prevent dehydrohalogenation and discoloration of the polymer during thermal processing. The preferred vinyl heat stabilizers for most flexible PVC applications in the United States are referred to as "Mixed Metal" heat stabilizers. They are complex multi-component chemical admixtures based upon combinations of alkaline earth and heavy metal salts with a variety of antioxidants, HCl absorbers and chelating agents. The most widely used mixed metals are based upon and referred to as Barium-Cadmium, Barium-Cadmium-Zinc, Barium-Zinc and Calcium-Zinc stabilizers. However, mixed metal heat stabilizers suffer from several drawbacks. If the level of zinc is too high, the polymer will char very rapidly. Additionally, barium and cadmium are toxic heavy metals which while they do provide heat stability, their presence adversely affects

clarity, plate out and stain. In order to counteract these negative effects, further additional components were blended into the formulations, making PVC additive formulation and processing a highly unique and specialized art. Clearly, what was needed was an approach which used higher performance phosphites and added back only what was

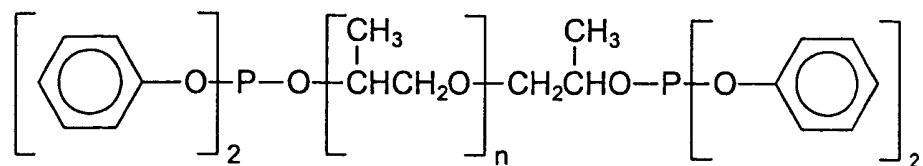
5 needed.

## Dipropylene Glycol Phosphites or DPG Phosphites

### #9 Tetraphenyl DPG diphosphite (DOVERPHOS® 11)

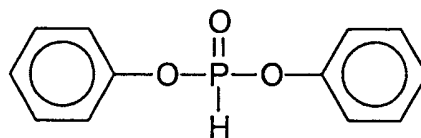


### #10 Poly DPG phenyl phosphite (DOVERPHOS® 12)

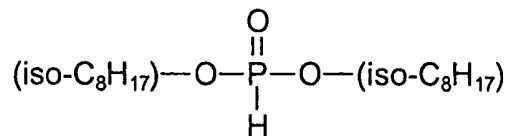


## Dialkyl/Aryl Hydrogen Phosphites

### #11 Diphenyl phosphite (DOVERPHOS® 213)

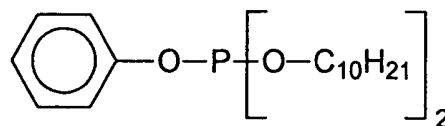


### #12 Diisooctyl phosphite (DOVERPHOS® 298)

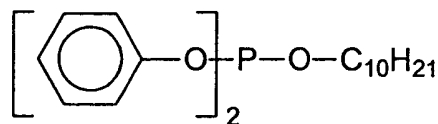


## Alkyl/Aryl Phosphites

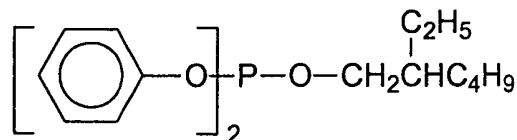
### #13 Phenyl diisodecyl phosphite (DOVERPHOS® 7)



### #14 Diphenyl isodecyl phosphite (DOVERPHOS® 8)

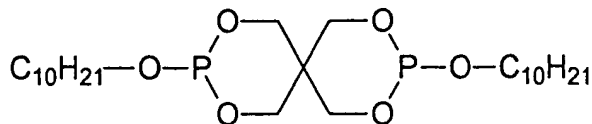


### #15 Diphenyl 2-ethylhexyl phosphite (DOVERPHOS® 9EH)

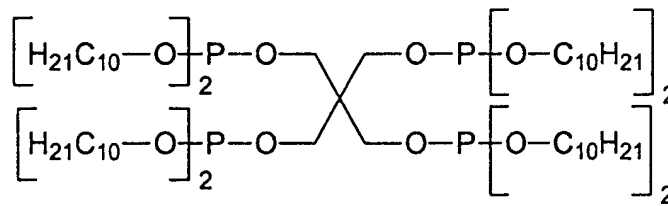


### Pentaerythritol Phosphites or PE Phosphites

- #16 Diisodecyl PE diphosphite  
(DOVERPHOS® 1220)

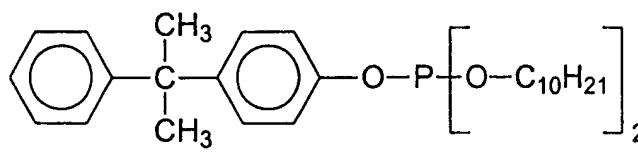


- #17  
(DOVERPHOS® 9708)

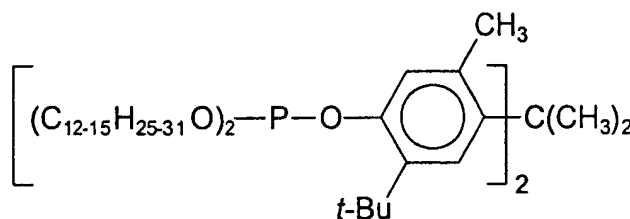


### p-Cumyl Phenol Phosphites or PCP Phosphites

- #18 Mono PCP diisodecyl phosphite



- #19  
(DOVERPHOS® 479)



The phosphite ester-based compositions of the present invention, used in flexible polyvinyl chloride compounds may partially or completely replace mixed metal PVC heat stabilizers containing toxic metals such as barium or cadmium without significantly detracting from the processability or initial color retention of the PVC compounds.

- 5 The phosphite ester-based compositions may consist of one or more phosphite esters and either contain or are used in conjunction with a small, but effective amount of an active zinc compound sufficient to ensure that the overall zinc level in the vinyl compounds falls within a range of about 50 to about 800 ppm, more preferably 100 to about 500 ppm based upon the PVC resin. The active zinc compounds may be selected zinc salts,
- 10 particularly zinc carboxylates, which would preferably include these soluble chemical moieties: zinc octoate, zinc 2-ethylhexoate, zinc hexoate, zinc neodecoate, zinc, decoate, zinc dodecanoate, zinc isostearate, zinc oleate; as well as these insoluble chemical moieties: zinc stearate, zinc



Table VIII

Color (Yellowness Index) Value			Color (Yellowness Index) Value		
	Prior Art U	A (120ppm)		Prior Art U	A (120ppm)
Time (min)	Dynamic Thermal Stability		Time (min)	Static Thermal Stability	
0	15	7	0	5.2	3.1
3	26	14	10	8.3	5.0
6	45	30	20	12.7	6.4
9	62	51	30	18.5	13.2
12	96	78	40	30.1	18.1
15	Char	char	50	39.4	29.8
18			60	52.1	46.7
			70	Char	72.1
			80		Char

Example #4

While levels of Zn in the range of 100-500 ppm are believed to be preferred,  
 5 depending on the level of performance desired by the end-user, higher levels of Zn, e.g.,  
 480 ppm can be added to the system, but still achieve acceptable performance.

Table IX

Component	PHR
PVC Resin	100
Plasticizer	41
Epoxidized soybean oil	3
CaCO <sub>3</sub>	40
Surfactant	3
ATH	5
Lubricants	0.25
Stabilizer	2

The Yellowness Index was measured for the Prior Art stabilizer additive package in  
 contrast to a composition of the instant invention using the compositions of Table IX in a  
 10 short term static heat stability test. As is clearly seen in the following Table X, the heat

## APPLICATION DATA SHEET

Electronic Version v14

Stylesheet Version v14.0

<b>Title of Invention</b>	PHOSPHITE ESTER ADDITIVE COMPOSITIONS
Application Type: regular, utility	
Correspondence address:  Customer Number: 24115 *24115*	
Priority Data:  Doc.No: 60/273,303; Country - US; Date: 2001-03-02 us-priority-claimed Doc.No: 60/314,181; Country - US; Date: 2001-08-16 us-priority-claimed Doc.No: 60/315,746; Country - US; Date: 2001-08-29 us-priority-claimed	
Inventors Information:  <u>Inventor 1:</u> Applicant Authority Type: Inventor Citizenship: US Name prefix: Mr. Given Name: Donald Middle Name: R. Family Name: Stevenson City of Residence: Dover State of Residence: OH Country of Residence: US Address-1 of Mailing Address: 301 Oakdale Drive Address-2 of Mailing Address: City of Mailing Address: Dover State of Mailing Address: OH Postal Code of Mailing Address: 44622 Country of Mailing Address: US	

Phone:

Fax:

E-mail:

Inventor 2:

Applicant Authority Type: Inventor  
Citizenship: US  
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Middle Name: C.  
Family Name: Jennings  
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State of Residence: OH  
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City of Mailing Address: Shaker Heights  
State of Mailing Address: OH  
Postal Code of Mailing Address: 44120  
Country of Mailing Address: US

Phone:

Fax:

E-mail:

Inventor 3:

Applicant Authority Type: Inventor  
Citizenship: US  
Name prefix: Mr.  
Given Name: Mark  
Middle Name: E.  
Family Name: Harr  
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State of Residence: OH  
Country of Residence: US  
Address-1 of Mailing Address: 739 3rd St. NW

**Address-2 of Mailing Address:****City of Mailing Address:** New Philadelphia**State of Mailing Address:** OH**Postal Code of Mailing Address:** 44663**Country of Mailing Address:** US**Phone:****Fax:****E-mail:****Inventor 4:****Applicant Authority Type:** Inventor**Citizenship:** US**Name prefix:** Mr.**Given Name:** Michael**Middle Name:** R.**Family Name:** Jakupca**City of Residence:** Canton**State of Residence:** OH**Country of Residence:** US**Address-1 of Mailing Address:** 810 37th St. N.W.**Address-2 of Mailing Address:****City of Mailing Address:** Canton**State of Mailing Address:** OH**Postal Code of Mailing Address:** 44709**Country of Mailing Address:** US**Phone:****Fax:****E-mail:****Attorney Information:****practitioner(s) at Customer Number:**

24115

\*24115\*

as our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

**Publication Information:**

**Suggested Figure for Publication -**

**Suggested Classification -**

**Suggested Technology Center -**

**Total Number of Drawing Sheets - 7**

**Assignee 1:**

**Organization Name:** Dover Chemical, Inc.

**Address-1 of Mailing Address:** 3676 Davis Rd., NW

**Address-2 of Mailing Address:**

**City of Mailing Address:** Dover

**State of Mailing Address:** OH

**Postal Code of Mailing Address:** 44622

**Country of Mailing Address:** US

**Phone:**

**Fax:**

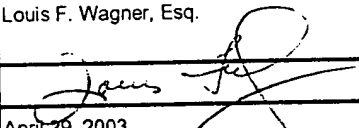
**E-mail:**

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>TRANSMITTAL FORM</b>  <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/086,619	
	Filing Date	01 March 2002	
	First Named Inventor	Stevenson, et al.	
	Art Unit	1714	
	Examiner Name	Thexton, Matthew	
Total Number of Pages in This Submission	8	Attorney Docket Number	47399-0015

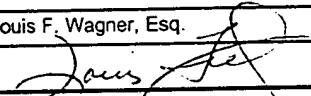
ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to Group
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input checked="" type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input checked="" type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Terminal Disclaimer	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Request for Refund	Copy of return postcard
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> CD, Number of CD(s) _____	Copy of Filing Receipt
<input type="checkbox"/> Certified Copy of Priority Document(s)	Remarks	Return postcard
<input type="checkbox"/> Response to Missing Parts/Incomplete Application		
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual	Louis F. Wagner, Esq.
Signature	
Date	April 29, 2003

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: April 29, 2003

Typed or printed	Louis F. Wagner, Esq.	Date	April 29, 2003
Signature			

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

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**FEE TRANSMITTAL**  
**for FY 2003**

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$) **130.00****Complete if Known**

Application Number	10/086,619
Filing Date	01 March 2002
First Named Inventor	Stevenson, et al.
Examiner Name	Thexton, Matthew
Art Unit	1714
Attorney Docket No.	47399-0015

**METHOD OF PAYMENT (check all that apply)**☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☐ Deposit Account:Deposit Account Number  
50-0983

Deposit Account Name

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) during the pendency of this application☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 750	2001 375	Utility filing fee	
1002 330	2002 165	Design filing fee	
1003 520	2003 260	Plant filing fee	
1004 750	2004 375	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
<b>SUBTOTAL (1)</b> (\$)			<b>0.00</b>

**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	-20** =	X	0.00
Multiple Dependent	-3** =	X	0.00

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1202 18	2202 9	Claims in excess of 20	
1201 84	2201 42	Independent claims in excess of 3	
1203 280	2203 140	Multiple dependent claim, if not paid	
1204 84	2204 42	** Reissue independent claims over original patent	
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent	
<b>SUBTOTAL (2)</b> (\$)			<b>0.00</b>

\*\*or number previously paid, if greater; For Reissues, see above

**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for <i>ex parte</i> reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 410	2252 205	Extension for reply within second month	
1253 930	2253 465	Extension for reply within third month	
1254 1,450	2254 725	Extension for reply within fourth month	
1255 1,970	2255 985	Extension for reply within fifth month	
1401 320	2401 160	Notice of Appeal	
1402 320	2402 160	Filing a brief in support of an appeal	
1403 280	2403 140	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,300	2453 650	Petition to revive - unintentional	
1501 1,300	2501 650	Utility issue fee (or reissue)	
1502 470	2502 235	Design issue fee	
1503 630	2503 315	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	130.00
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 750	2809 375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 750	2810 375	For each additional invention to be examined (37 CFR 1.129(b))	
1801 750	2801 375	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

**SUBTOTAL (3)** (\$) **130.00****SUBMITTED BY**

(Complete if applicable)

Name (Print/Type)	Louis F. Wagner, Esq.	Registration No. (Attorney/Agent)	35,730	Telephone	330-258-6453
Signature		Date	April 29, 2003		

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

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**Certificate of Mailing / Transmission (37 C.F.R. 1.8(a))**

I hereby certify that, on the date shown below, this correspondence is being:

**MAILING**



Deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Box Petition, Assistant Commissioner for Patents, Washington, D.C. 20231.

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In the event a fee is required for the filing of the attached document(s) or in implementing the addition of new claims or any claim amendments, and the required fee is not submitted or the fee submitted is incorrect, the Commissioner is hereby authorized to charge any additional fees to effect the filing of this document(s) or credit any overpayment under 37 CFR 1.16 and 1.17 to Account No. 50-0983.

Signature

Date

  
Louis F. Wagner

  
29 April 2003

(type or print name of person certifying)

---

**IN THE UNITED STATES PATENT & TRADEMARK OFFICE**

---

<i>Applicant:</i>	Stevenson et al.	<i>Examiner:</i>	Thexton, Matthew
<i>Serial #:</i>	10/086,619	<i>Art Unit:</i>	1714
<i>Filing Date:</i>	01 March 2002	<i>Date:</i>	29 April 2003
<i>Title:</i>	Phosphite Ester Additive Compounds		

---

Box Petition  
Assistant Commissioner for Patents  
Washington, D.C. 20231

***Petition for Correction of Filing Date of Provisional Application***

***Statement of Facts Involved***

U.S. patent application Serial Number 10/086,619 claims priority from three provisional patent applications:

60/273,303 (filing date 3/2/2001);

60/314,181 (filing date 8/16/2001 incorrectly listed as 8/15/2001); and

60/315,746 (filing date 8/29/2001).

The Office correctly noted that the filing date of the middle provisional application was incorrect in the declaration which was signed by all inventors.

At the time of the filing of the instant application, the assignee of the patent application, Dover Chemical Corp., was in the process of transferring Intellectual Property work from one law firm to the law firm of the applicant. This law firm did not



have all of the files associated with this matter in its presence as of the filing date of the instant application.

***Point to be Reviewed***

Applicant petitions for entry of the following accompanying papers with respect to the priority claim in this case.

(1) Declaration containing the priority claim with corrected filing date to provisional patent application 60/314,181.

The date associated with the provisional patent application should correctly be listed as August 16, 2001, but was incorrectly listed as August 15, 2001 on the declaration signed by the inventors. This was an inadvertent error, and was without deceptive intent, in that the return postcard was relied upon which showed an incorrect handwritten date. At the time of the filing of this patent application, a previous law firm was in the process of transferring the file and while the receipt date by the USPTO showed August 16, 2001, there was no way of verifying which date was correct.

It is respectfully submitted that this inadvertent error was with deceptive intent, and will not require the Office to perform any additional work in that the first filed provisional application was correctly identified as was a later filed provisional application. Additionally, the middle provisional application was correctly identified by serial number.

The Petition fee 37 C.F.R. §1.17(i) of \$130 is herein to be paid by the accompanying check.

***Action Requested***

Applicant petitions for entry of the attached declaration which correctly identifies the filing dates of all provisional patent applications. Applicant respectfully petitions for the issuance of a corrected filing receipt.

***Proposed Full Response***

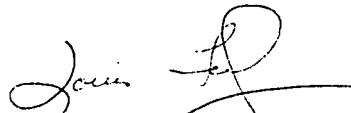
A full and complete response is being filed with the office action which issued on December 2, 2002, into which this petition is attached. Additionally, the attached declaration is hereby requested to be entered into the case.

***Deposit Account***

The Commissioner is hereby authorized to charge any additional fee required to effect the filing of this document to Account No. 50-0983.

The entry of the correct provisional patent application filing date for serial no. 60/314,181 is earnestly solicited.

Respectfully Submitted,  
Buckingham, Doolittle & Burroughs, LLP



Louis F. Wagner  
LWagner@bdblawn.com  
Registration No.: 35,730

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50 S. Main St.  
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(330) 258-6453 (telephone)  
(330) 252-5452 (fax)  
Attorney Docket #: 47399.0015

Attorney Docket No. 5395-7-PPH Initials TAD/TAL Date 2-15-01  
Inventor/Applicant James H. PPH Se. No. \_\_\_\_\_  
Title Therapeutic Total Inductive Lamp Filed 2-15-01

☒ PATENT/DESIGN APPLICATION

29 pgs. Specification  
\_\_\_\_\_ pgs. Claims  
\_\_\_\_\_ Total \_\_\_\_\_ Independent  
\_\_\_\_\_ pgs. Abstract  
\_\_\_\_\_ Sheet(s) of Drawings  
\_\_\_\_\_ Formal \_\_\_\_\_ Informal  
\_\_\_\_\_ Declaration/Power of Attorney  
\_\_\_\_\_ Small Entity Status  
\_\_\_\_\_ Copy of Notice to File Missing Parts  
\_\_\_\_\_ PCT Request  
\_\_\_\_\_ Fee Calculation Sheet

mination

tion

☐ AMENDMENT (Due \_\_\_\_\_)

\_\_\_\_\_ Extension of Time For \_\_\_\_\_ Month(s)

☐ INFORMATION DISCLOSURE STATEMENT

\_\_\_\_\_ PTO/SB/08A \_\_\_\_\_ Refs.

☐ ASSIGNMENT \_\_\_\_\_ Recordation

☒ CHECK(s) in Amount \$ 150.00

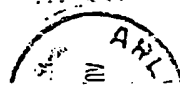
☒ TRANSMITTAL ☒ New Application

☒ OTHER Return filed



08-16-2001

U.S. Patent & TMO/TM Mail Rcpt Dt. #78



SEP 20 2001



## UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231  
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
60/314,181	08/16/2001		150	5898-7-PRV			

CONFIRMATION NO. 7838✓

## FILING RECEIPT



\*OC000000006567536\*

John D. DeLong  
Twin Oaks Estate  
1225 West Market Street  
Akron, OH 44313-7188

Date Mailed: 09/18/2001

Receipt is acknowledged of this provisional Patent Application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Donald R. Stevenson, Dover, OH;  
Tom Jennings, Shaker Heights, OH;  
Mark Harr, New Philadelphia, OH;

If Required, Foreign Filing License Granted 09/17/2001

Projected Publication Date: N/A

Non-Publication Request: No

Early Publication Request: No

## Title

Phosphite ester additive compositions

Data entry by : DONG, OANH

Team : OIPE

Date: 09/18/2001



**DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION**

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**PHOSPHITE ESTER ADDITIVE COMPOSITIONS**

the specification of which

(check one)

☐ is attached hereto.

☒ was filed on March 1, 2002 as Application Serial No. 10/086,619

☐ and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any identified amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with 37, CFR §1.56(a).

I hereby claim foreign priority benefits under 35, USC §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

**Prior Foreign Application(s):**

No. _____ Country _____ DY/MO/YR Filed _____ Priority claimed: <input type="checkbox"/> Yes <input type="checkbox"/> No	No. _____ Country _____ DY/MO/YR Filed _____ Priority claimed: <input type="checkbox"/> Yes <input type="checkbox"/> No	No. _____ Country _____ DY/MO/YR Filed _____ Priority claimed: <input type="checkbox"/> Yes <input type="checkbox"/> No	No. _____ Country _____ DY/MO/YR Filed _____ Priority claimed: <input type="checkbox"/> Yes <input type="checkbox"/> No
--	--	--	--

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35, USC §112, I acknowledge the duty to disclose material information as defined in 37, CFR §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Ser. No. <u>60/273,303</u> DY/MO/YR Filed <u>02/03/01</u> Status: <u>Pending</u>	Ser. No. <u>60/314,181</u> DY/MO/YR Filed <u>16/08/01</u> Status: <u>Pending</u>	Ser. No. <u>60/315,746</u> DY/MO/YR Filed <u>29/08/01</u> Status: <u>Pending</u>	Ser. No. _____ DY/MO/YR Filed _____ Status: _____
--	--	--	---

I hereby appoint the following attorney(s) and or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith: Louis F. Wagner, Reg. No. 35,730 and David P. Dureska, Reg. No. 34,152.

Place Customer No. Label Here

Address all telephone calls to: Louis F. Wagner at telephone No. (330) 258-6453

Address all correspondence to: Customer No. 24115

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under of 18, USC §1001 and that such willful false statements may jeopardize the validity of the application of any patent issued thereon.

<b>FIRST OR SOLE INVENTOR</b> Name: <u>Donald R. Stevenson</u> Residence (City): <u>Dover</u> (State/Country): <u>Ohio, USA</u> P.O. Address: <u>301 Oakdale Drive</u> <u>Dover, Ohio 44622</u> Citizenship: <u>USA</u> Signature: <u>Donald Stevenson</u> Date: <u>4-25-03</u>	<b>SECOND INVENTOR</b> Name: <u>Thomas C. Jennings</u> Residence (City): <u>Shaker Heights</u> (State/Country): <u>Ohio, USA</u> P.O. Address: <u>18200 South Park Boulevard</u> <u>Shaker Heights, Ohio 44120</u> Citizenship: <u>USA</u> Signature: <u>Thomas C. Jennings</u> Date: <u>4/25/03</u>	<b>THIRD INVENTOR</b> Name: <u>Mark E. Harr</u> Residence (City): <u>New Philadelphia</u> (State/Country): <u>Ohio, USA</u> P.O. Address: <u>739 3rd St. NW</u> <u>New Philadelphia, Ohio 44663</u> Citizenship: <u>USA</u> Signature: <u>Mark E. Harr</u> Date: <u>4-25-03</u>
---	--	---

<b>FOURTH INVENTOR</b> Name: <u>Michael R. Jakupca</u> Residence (City): <u>Canton</u> (State/Country): <u>Ohio, USA</u> P.O. Address: <u>810 37th St. N.W.</u> <u>Canton, Ohio 44709</u> Citizenship: <u>USA</u> Signature: <u>Michael Jakupca</u> Date: <u>4-25-03</u>	<b>FIFTH INVENTOR</b> Name: _____ Residence (City): _____ (State/Country): _____ P.O. Address: _____ _____ Citizenship: _____ Signature: _____ Date: _____	<b>SIXTH INVENTOR</b> Name: _____ Residence (City): _____ (State/Country): _____ P.O. Address: _____ _____ Citizenship: _____ Signature: _____ Date: _____
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**IN THE UNITED STATES PATENT & TRADEMARK OFFICE**

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<i>Applicant:</i>	Stevenson et al.	<i>Examiner:</i>	Thexton, Matthew
<i>Serial #:</i>	10/086,619	<i>Art Unit:</i>	1714
<i>Filing Date:</i>	01 March 2002	<i>Date:</i>	18 June 2003
<i>Title:</i>	PHOSPHITE ESTER ADDITIVE COMPOSITIONS		

---

Commissioner of Patent and Trademarks  
Washington, D.C. 20231

Declaration of Louis F. Wagner

I, *Louis F. Wagner*, patent attorney for the applicant of the above identified invention, hereby declare the following:

1. *That* I first became aware of the mistake in the priority date listed for provisional patent application 60/314,181 upon the receipt of the original filing receipt mailed by the USPTO to the declarant on 3/28/2002 (Exhibit F).
2. *That* I submitted a Request for a Corrected Filing Receipt on April 25, 2002 believing that to be the correct manner in which to correct what was believed to have been a clerical error at that time (Exhibit G).
3. *That* the declarant was apprised by the USPTO that the error was not capable of being corrected by that procedure in a communication entitled "Response to Request for Corrected Filing Receipt" mailed by the USPTO on May 28, 2002 (Exhibit H).
4. *That* the declarant was additionally apprised of that fact by the Examiner assigned to the instant patent application in a first office action mailed on December 2, 2002 (Exhibit I).
5. *That* a Petition to Correct was filed on April 29, 2003 (Exhibit D) which the Petitions Office has responded with their initial decision in Paper No. 8 (Exhibit J).

6. *That* the declarant filed a response to the pending Office Action on May 29, 2003 (Exhibit B) which addressed both the procedural and substantive rejections, including a copy of the Petition previously filed with this Office (Exhibit D).
7. *That* the declarant inadvertently omitted to state that the entire delay between the date of the claim was due under 37 CFR §1.79(a)(5)(ii) was unintentional, although it is respectfully submitted that through the representation contained by the declarant in the originally filed petition which explains the underpinnings for the incorrect date, it is inherent in the text of the document, even though the term "unintentional" was not expressly used.
8. *That* the delay in the submission of the correct date was unintentional for the entire time period defined under 37 CFR §1.79(a)(5)(ii) to the present.
9. *That* the identification of the correct serial numbers in all instances is further evidence that the declarant always intended to identify the priority provisional patent applications correctly.
10. *That* the mis-identification of the filing date of the middle priority provisional patent application had no bearing on the date that the Office would have relied upon in determining Prior Art since the initial priority provisional patent application was always correct identified, as was the latest priority provisional patent application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

  
\_\_\_\_\_  
Louis F. Wagner

6/18/2003  
\_\_\_\_\_  
Date



## UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231  
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
10/086,619	03/01/2002	1713	1202	47399.0015	7	41	4

CONFIRMATION NO. 1903

## FILING RECEIPT



\*OC000000007739201\*

24115  
LOUIS F WAGNER  
BUCKINGHAM DOOLITTLE & BURROUGHS, LLP  
50 S MAIN STREET  
P O BOX 1500  
AKRON, OH 44309-1500

Date Mailed: 03/28/2002

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Don R. Stevenson, Dover, OH;  
Thomas C. Jennings, Shaker Heights, OH;  
Mark E. Harr, New Philadelphia, OH;  
Michael R. Jakupca, Canton, OH;

## Domestic Priority data as claimed by applicant

THIS APPLN CLAIMS BENEFIT OF 60/273,303 03/02/2001  
AND CLAIMS BENEFIT OF 60/314,181 08/16/2001 \*  
AND CLAIMS BENEFIT OF 60/315,746 08/29/2001  
(\* ) Data inconsistent with PTO records.

## Foreign Applications

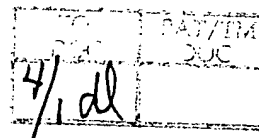
If Required, Foreign Filing License Granted 03/28/2002

Projected Publication Date: 09/05/2002

Non-Publication Request: No

Early Publication Request: No

Title



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APR 01 2002

BY: *dl*



## Phosphite ester additive compositions

## Preliminary Class

524

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**LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

**Certificate of Mailing / Transmission (37 C.F.R. 1.8(a))**

I hereby certify that, on the date shown below, this correspondence is being:

**MAILING**




Deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Office of Initial Patent Examination's Customer Service Center, Assistant Commissioner for Patents, Washington, D.C. 20231.

**FACSIMILE**



Transmitted by facsimile to the Patent & Trademark Office

In the event a fee is required for the filing of the attached document(s) or in implementing the addition of new claims or any claim amendments, and the required fee is not submitted or the fee submitted is incorrect, the Commissioner is hereby authorized to charge any additional fees to effect the filing of this document(s) or credit any overpayment under 37 CFR 1.16 and 1.17 to Account No. 50-0983.

  
\_\_\_\_\_  
Signature

4/25/02  
\_\_\_\_\_  
Date

Louis F. Wagner

April 25, 2002

(type or print name of person certifying)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application Number: 10/086,619

Group Art Unit: 1713

Filing Date: 01 Mar 2002

Examiner Name: Unknown

First Named Inventor: Stevenson, et al.

For: Phosphite Ester Additive Compositions

Office of Initial Patent Examination's Customer Service Center  
Assistant Commissioner for Patents  
Washington, DC 20231

**RECEIVED**  
JUN 23 2003

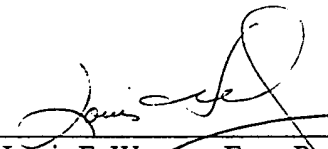
**REQUEST FOR CORRECTED FILING RECEIPT**

OFFICE OF PETITIONS

Office of Initial Patent Examination's Customer Service Center:

Receipt is acknowledged of the Filing Receipt dated March 28, 2002 in connection with the above-referenced patent application. It is noted, however, that the filing date of the second provisional application listed under "Domestic Priority data as claimed by applicant" is incorrect. The correct filing date for Serial No. 60/314,181 should be 08/15/2001.

All other information appears to be correct. In light of the foregoing, a corrected Filing Receipt is earnestly solicited.

  
\_\_\_\_\_  
Louis F. Wagner, Esq., Reg. No. 35,730  
Buckingham, Doolittle & Burroughs, LLP  
P. O. Box 1500  
Akron, Ohio 44309-1500

LFW/dl

«AK3:555993\_1»



# UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, DC 20231  
www.uspto.gov

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/086,619	03/01/2002	Don R. Stevenson	47399.0015

CONFIRMATION NO. 1903

24115  
LOUIS F WAGNER  
BUCKINGHAM DOOLITTLE & BURROUGHS, LLP  
50 S MAIN STREET  
P O BOX 1500  
AKRON, OH 44309-1500



\*OC000000008191670\*

Date Mailed: 05/28/2002

## RESPONSE TO REQUEST FOR CORRECTED FILING RECEIPT

### Claims, Fees, and Inventors

In response to your request for a corrected Filing Receipt, the Office is unable to comply with the request because:

- ☐ The total number of claims appearing on the Filing Receipt does not include multiple dependent claims. The total fee appearing on the Filing Receipt includes the cost of multiple dependent claims that were present at the time the application was filed.
- ☐ The filing fee is correct. It may include additional claims fees and/or the surcharge under 37 CFR 1.16(e) for filing an oath/declaration or basic filing fee after the application filing date; or it may not reflect fees refunded to the applicant that were paid by mistake.
- ☐ The number of claims reflected on the filing receipt is correct. Upon review of the claims, it was found that there was a miscalculation by the applicant. This may be due to improperly presented multiple dependent claims, typographical error, misnumbering of the claims, or other oversight. An amendment may be necessary to correct the problem.
- ☐ The filing fee reflected on the filing receipt is correct. Applicant may have miscalculated the fees due.
- ☐ Applicant calculated fees as other than small entity; however, applicant asserted small entity status in the application. Therefore, fees were applied as small entity and the remainder was refunded to the applicant.
- ☐ The difference between the fees paid and the fees due was refunded to the applicant and will not be shown on the filing receipt.
- ☐ The inventor information may be truncated if the family name consists of more than 50 characters (letters and spaces combined) and if the given name consists of more than 50 characters.

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JUN 03 2002

BY: *dl*

— characters (letters and spaces combined).

☐ The inventor's residence allows for up to 40 characters (letters and spaces combined).

☐ The inventor's residence will only include the city and state for U.S. residences or city and country for residences outside the U.S. (See MPEP 605.02).

☐ A petition to correct the inventorship is needed to make this change. See 37 CFR 1.48. For non-provisional applications, the petition should be directed to the Director of the examining group assigned to your application.

☐ Changes made after submission of an executed declaration to the inventor information other than correction of typographical errors must be submitted in the form of a substitute declaration. Change of inventorship requires a petition under 37 CFR 1.48.

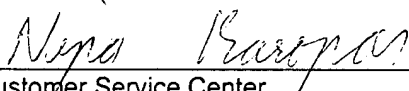
☐ The number of drawings shown on the filing receipt reflects the number of drawing sheets submitted and is not necessarily equal to the number of figures submitted.

☐ The correspondence address was captured as directed by applicant on filing. If you wish correspondence to be directed otherwise, please submit a request for a change of address.

☐ The docket number allows a maximum of 25 characters.

☐ The person signing on behalf of the deceased inventor is reflected on the Filing Receipt as the legal representative.

☒ The filing date of a parent application cannot be changed by this request. A petition to correct the filing date in the parent application is required.

  
\_\_\_\_\_  
Customer Service Center  
Office of Initial Patent Examination  
(703) 308-1202



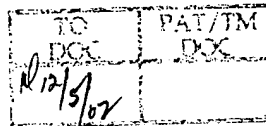
UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,619	03/01/2002	Don R. Stevenson	47399.0015	1903

24115 7590 12/02/2002

BUCKINGHAM, DOOLITTLE & BURROUGHS, LLP  
50 S. MAIN STREET  
AKRON, OH 44308



EXAMINER

THEXTON, MATTHEW

ART UNIT PAPER NUMBER

1714

DATE MAILED: 12/02/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED  
DEC 05 2002  
BY:

Office Action Summary

Application No.

10/086,619

Applicant(s)

STEVENSON ET AL.

Examiner

Matthew A Thexton

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2002 and 24 April 2002.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☒ Claim(s) 39 and 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Priority*

1. If applicant desires priority under 35 U.S.C. 119(e) based upon a previously filed copending application, specific reference to the earlier filed application must be made in the instant application. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. \_\_\_\_\_" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

If the application is a utility or plant application filed on or after November 29, 2000, any claim for priority must be made during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2) and (a)(5). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A priority claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed claim for priority under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) a surcharge under 37 CFR 1.17(t), and (2) a statement that the entire delay

between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Commissioner may require additional information where there is a question whether the delay was unintentional. The petition should be directed to the Office of Petitions, Box DAC, Assistant Commissioner for Patents, Washington, DC 20231.

The declaration does not correctly claim benefit under 35 USC 119(e).

The declaration refers to 60/314181, filed 15/08/01, which is not in agreement with USPTO records.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite component (b) in quantity terms relative to a "resin," however these claims are, as best understood from the intended use language and the disclosure, to be substantially free of any resin. Accordingly, the limitation is unclear because the language makes it unclear whether or not resin is present. Claims 32-34 recite amounts of component (a) in terms of "phr" which normally refers to a dosage in a resin, however, as noted, these claims are, as best understood from the intended use language and the disclosure, to be substantially free of any resin.



Art Unit: 1714

2. Claims 1-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Component (b) recites the amount of zinc in terms of parts per million (ppm) and then further as "per hundred parts of a resin" or "per 100 parts of a resin." Does this mean that the ppm values are further modified by a factor of 100, i.e. "50 to 800 ppm per hundred parts resin" is 0.5 to 8 ppm of resin? If the latter is intended, it should be clearly stated.

3. Claims 33-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within the list of zinc carboxylates in claim 33 it appears that an extraneous comma is present between "zinc" and "decoate" which renders the claims unclear.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-31 and 37-41 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for zinc compounds, as described at the paragraph bridging page 9 and page 10, does not reasonably provide enablement for zinc, i.e. the metal per se, or for zinc compounds which do not dissolve in the liquid compositions disclosed. The specification does not enable any person skilled in the art

to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

***Claims Objections***

5. Claim 39 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 39 depends from claim 38. Claim 38 is limited to pentaerythritol phosphites of the indicated structural formula and moiety limitation set forth in the claim. Claim 39 presents three formulas of said phosphite. The first two are identical, and the third is not encompassed by the limitations of claim 38. Should applicant reword this claim to embody one specie, the language "selected from the group consisting of" should be deleted in order to make the claim unambiguous.

6. Claim 41 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 41 depends from claim 40, which limits said phosphite to a polydialkylene glycol phosphite. Claim 41 purports to limit said polydialkylene glycol phosphite to two presented structures. However, the second structure is beyond the scope of claim 40 due to apparent error in structure, specifically, the right hand phenyl has been drawn to encompass within its brackets the atom P. This problem appears at page 8 "#10" also. Further, the

Art Unit: 1714

polydialkylene glycol is subscripted with an "n" rather than a "p" as required by claim 40 (and claim 31 from which it depends). Since the first structure in claim 41 corresponds to  $p=1$ , the second structure would appear to be unique only when  $p=0$ .

### ***Specification***

7. The disclosure is objected to because of the following informalities: As noted in the rejection of claims 1-41 above under 35 USC 112, the use of ppm further modified with 'parts per hundred' is confusing. This problem appears at page 9, lines 9-10.

In addition, the information regarding the examples presented in Tables III, V, VII, IX, XI, XIII, XIX, XXI is confusing because the term "phr" normally refers to components added to 100 pounds of a base material, however the component 'PVC Resin' is variously indicated as being added at 98 or 100 phr, which contradicts its apparent presence as the base material. If it is not the base material, then what is? If it is the base material then it appears it should be present as 100 pounds, not 100 phr.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by

Valdiserri (US 4614756). Applicants claims are comprising and hence do not preclude

the tin additive of the reference, and the zinc limitation is ineffective since no resin is present in the claimed liquid

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-7, and 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minagawa, et al. (US 4282141).

Claims 1-10 comprise liquid mixtures of a phosphite ester and zinc (compound?). Claim 5 introduces a property of weight loss in a specified test to claims 5-10. Claim 7 recites a narrower Markush group of phosphite esters applicable to claims 7-10. Claim 8 is a narrower Markush group that applies to claims 8 and 9. Claim 9 is "essentially free" of barium, cadmium, and calcium. Claim 10 is limited to one of eight species of phosphite esters.

Claims 11-20 comprise liquid mixtures of a phosphite ester and zinc (compound?) wherein the molar ratio of P/Zn may range from 8 to 75. Claim 15 introduces a property of weight loss in a specified test to claims 15-20. Claim 17 recites a narrower Markush group of phosphite esters applicable to claims 17-20. Claim 18 recites a narrower Markush group that applies to claims 18 and 19. Claim 19 is "essentially free" of barium, cadmium, and calcium. Claim 20 is limited to one of eight species of phosphite esters.

The reference teaches "environmentally acceptable" polymers which comprise zinc salt (column 10, lines 55-65) and alkylaryl phosphite (column 8, line 31 to column 9, line 36), both at doses which overlap the present claims. Liquid formulations are taught (column 11, lines 55-65) and when combined with the composition teachings (column 8 line 31 to column 9 line 40 and column 10 lines 55-65) claims 1-7 and 9-17 are met. The volatility limitations of claims 5-7, 10, and 15-17 are inherent. Although no one example anticipates applicant's claims, the broad teaching suggests modifications and ranges which meet the claims. Claim 9 which requires mixtures "essentially free" of barium, cadmium, and calcium, are encompassed by the teachings, e.g., claim 18 of Minagawa. The reference does not disclose the phosphite esters of claims 8 or 18-20.

10. Claims 1-8, 10-18, 20, 31, 32 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Housel (US 4340514).

Claims 1-10 comprise liquid mixtures of a phosphite ester and zinc (compound?). Claim 5 introduces a property of weight loss in a specified test to claims 5-10. Claim 7 recites a narrower Markush group of phosphite esters applicable to claims 7-10. Claim 8 is a narrower Markush group that applies to claims 8 and 9. Claim 9 is "essentially free" of barium, cadmium, and calcium. Claim 10 is limited to one of eight species of phosphite esters.

Claims 11-20 comprise liquid mixtures of a phosphite ester and zinc (compound?) wherein the molar ratio of P/Zn may range from 8 to 75. Claim 15 introduces a property of weight loss in a specified test to claims 15-20. Claim 17 recites a narrower Markush group of phosphite esters applicable to claims 17-20. Claim 18

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recites a narrower Markush group that applies to claims 18 and 19. Claim 19 is "essentially free" of barium, cadmium, and calcium. Claim 20 is limited to one of eight species of phosphite esters.

Claims 31-41 comprise additive mixtures for polyvinyl chloride of phosphite ester of the a four genus member Markush group and zinc (compound?). Claim 32 introduces a dosage rate for the phosphite into non-present resin, and limits the zinc to zinc carboxylate, to claims 32-37. Claim 33 lists the species of zinc carboxylates applicable to claims 33-36. Claim 37 limits claim 31 to structurally related p-cumyl phenol phosphites. Claim 38 limits claim 31 to structurally related pentaerythritol phosphites and claim 39 further limits claim 38 to one of three species. Claim 40 limits claim 31 to structurally related polydiakylene glycol phosphite and claim 41 further limits claim 40 to one of two species.

Housel teaches "non-toxic" liquid stabilizers for halogenated hydrocarbon resins. The zinc component (column 2, lines 15-40) is a carboxylate, present as zinc in the mixture at 0.1 to 3.5 percent (column 5, lines 35-38) which is compounded with the resin at 0.25 to 4 percent of the resin (column 1, lines 59-61) which overlaps applicant's claimed levels of zinc. The phosphite component (column 3, line 39 to column 4, line 54) may be selected from multiple species including alkylaryl phosphites and distearyl pentaerythritol diphosphite (column 4, line 43) present in the mixture at about 0.93 to 10.28 percent as P (column 5, lines 35-41), which when translated to molar ratio to zinc overlaps applicant's claimed ratios. The volatility limitations of claims 5-8, 10, 15-17 and 20 are inherent. The phosphites disclosed meet the claims including claim

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38 to pentaerythritol phosphite. Examples 12 and 14 suggest to modify example 4 to increase the ratio of phosphorus within the ranges taught. Although no one example anticipates applicant's claims, the broad teaching suggests modifications and ranges which meet the claims.

The reference does not disclose mixtures "essentially free" of calcium as required of claims 9 and 19. The reference does not disclose any of the species of zinc carboxylates of claims 33-36. The reference does not disclose the phosphites of claims 37 and 39-41.

11. Claims 1-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhodes, et al. in view of Nosu et al. (US 5120783) and Kotani, et al. (US 5414030).

Claims 1-10 comprise liquid mixtures of a phosphite ester and zinc (compound?). Claim 5 introduces a property of weight loss in a specified test to claims 5-10. Claim 7 recites a narrower Markush group of phosphite esters applicable to claims 7-10. Claim 8 is a narrower Markush group that applies to claims 8 and 9. Claim 9 is "essentially free" of barium, cadmium, and calcium. Claim 10 is limited to one of eight species of phosphite esters.

Claims 11-20 comprise liquid mixtures of a phosphite ester and zinc (compound?) wherein the molar ratio of P/Zn may range from 8 to 75. Claim 15 introduces a property of weight loss in a specified test to claims 15-20. Claim 17 recites a narrower Markush group of phosphite esters applicable to claims 17-20. Claim 18 recites a narrower Markush group that applies to claims 18 and 19. Claim 19 is

"essentially free" of barium, cadmium, and calcium. Claim 20 is limited to one of eight species of phosphite esters.

Claims 21-30 consist essentially of "essentially toxic-metal free" liquid mixtures of phosphite ester and zinc (compound?). Claim 25 introduces a property of weight loss in a specified test to claims 25-30. Claim 27 recites a narrower Markush group of phosphite esters applicable to claims 27-30. Claim 29 is "essentially free" of barium, cadmium, and calcium. Claim 30 is limited to one of eight species of phosphite esters.

Claims 31-41 comprise additive mixtures for polyvinyl chloride of phosphite ester of a four genus member Markush group and zinc (compound?). Claim 32 introduces a dosage rate for the phosphite into non-present resin, and limits the zinc to zinc carboxylate, to claims 32-37. Claim 33 lists the species of zinc carboxylates applicable to claims 33-36. Claim 37 limits claim 31 to structurally related p-cumyl phenol phosphites. Claim 38 limits claim 31 to structurally related pentaerythritol phosphites and claim 39 further limits claim 38 to one of three species. Claim 40 limits claim 31 to structurally related polydiakylene glycol phosphite and claim 41 further limits claim 40 to one of two species.

Rhodes teaches liquid stabilizer compositions for polyvinyl chloride (PVC) comprising phosphite esters (column 3 line 49 to column 4 line 35) and metal carboxylates including zinc (column 3, lines 26-48). The desirability of non-toxic metals is taught (column 3, lines 41-48) with preference for zinc stearate. The proportions are broadly taught (column 5, lines 18-25) and appear to overlap the claim limitations in claims 11-20. The volatility limitations of claims 5-8, 10, 15-17 and 20 are inherent.



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The phosphites disclosed meet the claims except for those in claims 8, 9, 18, 19, 28, 29, and 31-41. Kotani is cited merely to show what applicant admits with respect to the phosphite esters encompassed by the claims, which is that they were well known at the time of the invention for the purpose of stabilizing PVC (column 6 line 46 to column 10 line 3) and which meet the narrower Markush group of claims 8, 9, 18, 19, 28, 29, and 31-7, 39, and 40 and the species of claims 38 and 41. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use well known phosphites (e.g. as in Kotani) in combination with the teachings of Rhodes since their property is that sought by Rhodes.

Nosu discloses halogen stabilized resins using similar stabilizing mixtures. Nosu is relied upon for its teaching that cadmium and barium are undesirable and that zinc and calcium are preferred for their low cost and low toxicity (column 1, lines 17-39). One of ordinary skill in the art, at the time the invention was made, would have found it obvious to avoid the cadmium and barium metal options and instead rely solely upon zinc given the teachings of Nosu, particularly since no advantage is suggested in Rhodes for cadmium or barium over zinc. Since there is no calcium in the taught mixtures, the limitations of claims 9, 19, and 29 are met.

#### ***Cited Relevant Art***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Due to the broad nature of some of the claims, many references could be used to render the claims anticipated or obvious. The following references are

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deemed cumulative over the references applied in the above art rejections, but may become applicable should applicant's claims be amended.

Capolupo, et al. (US 4402858) teaches adding zinc salts of organic acids to phosphite antioxidants to reduce hydrolysis thereof in proportion of P/zinc of 78 to 900 by mole.

Nguyen, et al. (US 5374377) discloses PVC stabilizers comprising zinc carboxylate (column 4, lines 6-20) as the sole metal component plus phosphite ester (column 3, lines 28-53) in proportions overlapping applicant's.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A Thexton whose telephone number is 703-305-5085. The examiner can normally be reached on Monday-Friday, 8:30 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan S Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

mat  
November 26, 2002



Matthew A. Thexton  
Primary Examiner  
Art Unit 1714

PTO/SB/08A (08-00)  
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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	1	of	2
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**Complete if Known**

<b>Application Number</b>	10/086,619
<b>Filing Date</b>	01 Mar 2002
<b>First Named Inventor</b>	Stevenson, Don R., et al.
<b>Group Art Unit</b>	1713
<b>Examiner Name</b>	Unknown
<b>Attorney Docket Number</b>	47399.0015

## U.S. PATENT DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
MAT	AA	US 2,564,646		Leistner, et al.	08-14-1951	
MAT	AB	US 3,281,381		Hechenbleikner, et al.	10-25-1966	
MAT	AC	US 3,558,537		Hecker, et al.	01-26-1971	
MAT	AD	US 3,928,267		Rhodes, et al.	12-23-1975	
	AE	US 3,931,364		Glolito, et al.	01-06-1976	
	AF	US 3,943,081		Brook, et al.	03-09-1976	
	AG	US 4,134,868		Minagawa, et al.	01-16-1979	
	AH	US 4,159,261		Dieckmann	06-26-1979	
	AI	US 4,159,973		Hoch, et al.	07-03-1979	
	AJ	US 4,206,103		Kromolicki, et al.	06-03-1980	
	AK	US 4,244,848		Minagawa, et al.	01-13-1981	
	AL	US 4,310,429		Lai	01-12-1982	
	AM	US 4,333,868		Schmidt, et al.	06-08-1982	
	AN	US 4,346,025		Leistner, et al.	08-24-1982	
	AO	US 4,402,858		Capolupo, et al.	09-06-1983	
	AP	US 4,601,839		Lai	07-22-1986	
	AQ	US 4,614,756		Valdiserri	09-30-86	
	AR	US 4,661,544		Quinn	04-28-1987	
	BA	US 4,751,118		Wypart, et al.	06-14-1988	
MAT	BB	US 4,782,170		Bae, et al.	11-01-1988	

**FOREIGN PATENT DOCUMENTS**

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Examiner  
Signature

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Date \_\_\_\_\_

Considered

18 Nov 2002

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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<b>Application Number</b>	10/086,619
<b>Filing Date</b>	01 Mar 2002
<b>First Named Inventor</b>	Stevenson, Don R., et al.
<b>Group Art Unit</b>	1713
<b>Examiner Name</b>	Unknown
<b>Attorney Docket Number</b>	47399.0015

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Examiner  
Signature

Date Considered	18 Nov 2002
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1

of 1

### Complete if Known

Application Number	10/086,619
Filing Date	March 1, 2002
First Named Inventor	Stevenson, et al.
Group Art Unit	1713
Examiner Name	Unknown
Attorney Docket Number	47399.0015

### OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
MAT	CA	D. STEVENSON, M. HARR, B. HOOD, T. JENNINGS; "Flexible PVC stabilization: the phosphite approach"; Plastics Additives & Compounding; February 2002; pages 28-32; Vol. 4 Issue 2; Elsevier Advanced Technology; UK	
MAT	CB	D. STEVENSON, M. HARR, B. HOOD, T. JENNINGS; "Dover Phosbooster Advanced Phosphite Ester Technology"; Technical Bulletin 01-03; Dover Chemical Corporation, Dover, Ohio	
MAT	CC	D. STEVENSON, M. HARR, M. JAKUPCA; "Optimizing Cost Performance of Flexible PVC Compounds with PhosBoosters"; Vinyl Retec; September 11, 2001; New Jersey	
MAT	CD	D. STEVENSON, M. HARR, M. JAKUPCA; "Phosphite Ester Compositions for PVC Compounds"; ACS; August 29, 2001; Chicago, Illinois	
MAT	CE	D. STEVENSON, M. HARR, M. JAKUPCA; "Phosphite Ester Compositions for PVC Compounds"; Journal of Vinyl & Additives Technology; March 2002; Vol. 8, No. 1, Pages 61-69.	

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15 Nov 2002

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**Notice of References Cited**

Application/Control No.

10/086,619

Applicant(s)/Patent Under  
Reexamination  
STEVENSON ET AL.

Examiner

Matthew A Thexton

Art Unit

1714

Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,414,030	05-1995	Kotani et al.	524/99
	B	US-5,120,783	06-1992	Nosu et al.	524/357
	C	US-4,340,514	07-1982	Housel, David S.	524/77
	D	US-4,282,141	08-1981	Minagawa et al.	524/151
	E	US-3,755,200	08-1973	Rhodes et al.	252/400.2
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

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	P					
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	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
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	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
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BUCKINGHAM, DOOLITTLE & BURROUGHS, LLP  
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AKRON OH 44308

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JUN 06 2003

In re Application of  
Don r. Stevenson, Thoms C. Jennings,  
Mark E. Harr, and Michael R. Jakupca

Application No. 10/086,619  
Filed: March 1, 2002  
Attorney Docket No. 47399.0015  
Title: PHOSPHITE ESTER ADDITIVE  
COMPOSITIONS

DECISION ON PETITION

OFFICE OF PETITIONS

This is a decision on the "Petition for Correction of Filing Date of Provisional Application", filed on May 5, 2003, which is properly treated as a petition under 37 CFR §1.78(a)(6), to accept an unintentionally delayed claim under 35 U.S.C. § 119(e) for the benefit of a prior-filed provisional application.

On March 1, 2002, the above-identified application was filed with a declaration which incorrectly identified the filing date of priority document 60/314,181 as August 15, 2001 (the correct filing date of 60/314,181 is August 16, 2001).

With the instant petition, petitioner has included the petition fee, the fee associated with the acceptance of an unintentionally delayed claim for priority (\$1300 has been charged to petitioner's Deposit Account, as authorized in the petition).

The petition has failed to state that the entire delay between the date the claim was due under 37 C.F.R. 1.78(a)(5) and the date that the claim was filed was unintentional. On renewed petition, this statement must be made.

It is also noted that no Application Data Sheet (ADS) which identifies the provisional application number has been filed with this petition, and that the first sentence of the specification fails to identify this information. On renewed petition, either an ADS or an amendment to the specification must be filed to correct this deficiency.

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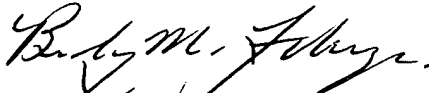
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As such, the petition under 37 CFR 1.78(a)(6) is **dismissed**.

Any request for reconsideration of this decision must be submitted within **TWO (2) MONTHS** from the mail date of this decision. Extensions of time under 37 CFR §1.136(a) are permitted. The reconsideration request should include a cover letter entitled "Renewed Petition under 37 CFR 1.78(a)(6)."

**The application file will be retained in the Office of Petitions for two (2) months.**

Telephone inquiries specific to this matter should be directed to Attorney Paul Shanoski at (703) 305-0011.



Beverly M. Flanagan  
Supervisory Petitions Examiner  
Office of Petitions  
United States Patent and Trademark Office